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WHAT IS INFORMATION MEASUREMENT?

GEORGE A. MILLER

Massachusetts Institute of Technology

IN recent years a few psychologists, whose business throws them together with communication engineers, have been making considerable fuss over something called "information theory." They drop words like "noise," "redundancy," or "channel capacity" into surprising contexts and act like they had a new slant on some of the oldest problems in experimental psychology. Little wonder that their colleagues are asking, "What is this 'information' you talk about measuring?" and "What does all this have to do with the general body of psychological theory?"

The reason for the fuss is that information theory provides a yardstick for measuring organization. The argument runs like this. A well-organized system is predictable—you know almost what it is going to do before it happens. When a well-organized system does something, you learn little that you didn't already know—you acquire little information. A perfectly organized system is completely predictable and its behavior provides no information at all. The more disorganized and unpredictable a system is, the more information you can get by watching it. Information, organization, and predictability room together in this theoretical house. The key that unlocks the door to predictability is the theory of probability, but once this door is open we have access to information and organization as well.

The implications of this argument are indeed worth making a fuss about. Information, organization, predictability, and their synonyms are not rare concepts in psychology. Each place they occur now seems to be enriched by the possibility of quantification. One rereads familiar passages with fresh excitement over their experimental possibilities. Well-worn phrases like "perceptual organization," "the disorganizing effects of emotion," "knowledge of results," "stereotyped behavior," "reorganization of the problem materials," etc., begin to leap off the pages.

In the first blush of enthusiasm for this new toy it is easy to overstate the case. When Newton's mechanics was flowering, the claim was made that animals are nothing but machines, similar to but more complicated than a good clock. Later, during the development of thermodynamics, it was claimed that animals are nothing but complicated heat engines. With the development of information theory we can expect to hear that animals are nothing but communication systems. If we profit from history, we can mistrust the "nothing but" in this claim. But we will also remember that anatomists learned from mechanics and physiologists profited by thermodynamics. Insofar as living organisms perform the functions of a communication system, they must obey the laws that govern all such systems. How much psychology will profit from this obedience remains for the future to show.

Most of the careless claims for the importance of information theory arise from overly free associations to the word "information." This term occurs in the theory in a careful and particular way. It is not synonomous with "meaning." Only the *amount* of information is measured—the amount does not specify the content, value, truthfulness, exclusiveness, history, or purpose of the information. The definition does not exclude other definitions and certainly does not include all the meanings implied by the colloquial usages of the word. This garland of "nots" covers most of the objectionable exaggerations. In order to demonstrate some properly constrained associations to the word "information," we need to begin with definitions of some basic concepts.

BASIC CONCEPTS

Amount of information. A certain event is going to occur. You know all the different ways this event can happen. You even know how probable each of these different outcomes is. In fact, you know everything about this event that can be learned by watching innumerable similar events in the past. The only thing you don't know is exactly which one of these outcomes will actually happen.

Imagine a child who is told that a piece of candy is under one of 16 boxes. If he lifts the right box, he can have the candy. The event—lifting one of the boxes—has 16 possible outcomes. In order to pick the right box, the child needs information. Anything we tell him that reduces the number of boxes from which he must choose will provide some of the information he needs. If we say, "The candy is not under the red box," we give him just enough information to reduce the number of alternatives from 16 to 15. If we say, "The candy is under one of the four boxes on the left end," we give more information because we reduce 16 to 4 alternatives. If we say, "The candy is under the white box," we give him all the information he needs—we reduce the 16 alternatives to the one he wants.

The amount of information in such statements is a measure of how much they reduce the number of possible outcomes. Nothing is said about whether the information is true, valuable, understood, or believed—we are talking only about *how much* information there is.

Bit. A perfectly good way to measure the amount of information in such statements (but not the way we will adopt) is merely to count the number of possible outcomes that the information eliminates. Then the rule would be that every time one alternative is eliminated, one unit of information is communicated.

The objection to this unit of measurement is intuitive. Most people feel that to reduce 100 alternatives to 99 is less helpful than to reduce two alternatives to one. It is intuitively more attractive to use ratios. The amount of information depends upon the fraction of the alternatives that are eliminated, not the absolute number. In order to convey the same amount of information, the 100 alternatives should be reduced by the same fraction as the two alternatives, that is to say, from 100 to 50.

Every time the number of alternatives is reduced to half, one unit of information is gained. This unit is called one "bit" of information. If one message reduces k to k/x, it contains one bit less information than does a message that reduces k to $k/2x$. Therefore, the amount of information in a message that reduces k to k/x is $\log_2 x$ bits.

For example, if the child's 16 boxes are reduced to two, then x is 8 and $\log_2 8$ is three bits of information. That is to say, 16 has been halved three times: 16 to 8, 8 to 4, and 4 to 2 alternative outcomes.

Source. The communication engineer is seldom concerned with a particular message. He must provide a channel capable of transmitting any message that a source may generate. The source selects a message out of a set of k alternative messages that it might send. Thus each time the source selects a message, the channel must transmit $\log_2 k$ bits of information in order to tell the receiver what choice was made.

If some messages are more probable than the others, a receiver can anticipate them and less information needs to be transmitted. In other words, the frequent messages should be the short ones. In order to take account of differences in probability, we treat a message whose probability is p as if it was selected from a set of $1/p$ alternative messages. The amount of information that must be transmitted for this message is, therefore, $\log_2 1/p$, or $-\log_2 p$. (Note that if all k messages are equally probable, $p = 1/k$ and $-\log_2 p = \log_2 k$, which is the measure given above.) In other words, some messages that the source selects involves more information than others. If the message probabilities are $p_1, p_2, \ldots, p_k$, then the amounts of information associated with each message are $-\log_2 p_1$, $-\log_2 p_2, \ldots, -\log_2 p_k$.

Average amount of information. Since we want to deal with sources, rather than with particular messages, we need a measure to represent how much information a source generates. If different messages contain different amounts of information, then it is reasonable to talk about the average amount of information per message we can expect to get from the source—the average for all the different messages the source may select. This expected value from source x is denoted $H(x)$:

$$H(x) = \text{the mean value of } (-\log_2 p_i)$$

$$= \sum_{i=1}^{k} p_i (-\log_2 p_i)$$

This is the equation that occurs most often in the psychological applications of information theory. $H(x)$ in bits per message is the mean logarithmic probability for all messages from source x. In all that follows we shall be talking about the average amount of information expected from a source, and not the exact amount in any particular message.

Related sources. Three gentlemen—call them Ecks, Wye, and Zee—are each making binary choices. That is to say, Ecks chooses either heads or tails and simultaneously Wye also makes a choice and so does Zee. They repeat their synchronous choosing over and over again, varying their choices more or less randomly on successive trials. Our job is to predict what the outcome of this triple-choice event will be.

With no more description than this we know that there are eight ways the triple-choice can come out: HHH, HHT, HTH, HTT, THH, THT, TTH, and TTT. Thus our job is to select one out of these eight possible outcomes. If all eight were equally probable, we would need three bits of information to make the decision.

Now suppose that Ecks tells us each time what his next choice is going to be. With Ecks out of the way we are left with only four combinations of double-choices by Wye and Zee, so we can gain one bit of information about the triple-choice from Ecks. Similarly, if Wye tells us what his choice is going to be, that can also be worth one bit of information. Now the question is this: If Ecks and Wye both tell us what they are going to do, how much information do we get?

Case I: Suppose that it turns out that Ecks and Wye are perfectly correlated. In other words, if we know what Ecks will do, we also know what Wye will do, and vice versa. Given the information from either one of them, the other one has no further information to add. Thus the most we can get from both is exactly the same as what we would get from either one alone. Note that if Ecks and Wye always make the same choice, there are actually only four possible outcomes: HHH, HHT, TTH, and TTT, so we need only two bits to select the outcome.)

Case II: Next, suppose that Ecks and Wye make their choices with complete independence. Then a knowledge of Ecks' choice tells us absolutely nothing about what Wye is going to do, and vice versa. None of the information from one is duplicated by the other. Thus, if we get one bit from Ecks and one bit from Wye, and if there is no common information at all, we must get two whole bits of information from both of them together.

Case III: Finally, suppose that, as will usually be the case when we apply these ideas, Ecks and Wye are partially but not perfectly correlated. If we know what Ecks will do, we can make a fairly reliable guess what Wye will do, and vice versa. Some but not all of the information we get from Ecks duplicates the information we get from Wye. This case falls in between the first two: the total information is greater than either of its parts, but less than their sum.

The situation in Case III is pictured in Fig. 1. The left circle is the information we get from Ecks and the right circle is the information from Wye. The symbols $H(x)$ and $H(y)$ denote the average amounts of information in bits per event expected from sources Ecks and Wye respectively. The overlap of the two circles represents the common information due to the correlation of Ecks and Wye and its average amount in bits per event is symbolized by T. The left half of the left circle is information from Ecks alone, and the right half of the right circle is information from Wye alone. The symbols $H_y(x)$ should be taken to mean the average amount of information per event that remains to be gotten from source Ecks after Wye is already known. The total area enclosed in both circles together represents all the information that both Ecks and Wye can provide. This total amount in bits per event is symbolized by $H(x,y)$.

$H(x)$ is calculated from the probabilities for Ecks' choices according to the equation given above. The same equation is used to calculate $H(y)$ from the probabilities for Wye's choices. And the same equation is used a third time to calculate $H(x,y)$ from the joint probabilities of the double-choices by Ecks and Wye together. Then all the other quantities involved can be calculated by simple arithmetic in just the way Fig. 1 would suggest. For example:

$$H_y(x) = H(x,y) - H(y)$$

or

$$T = H(x) + H(y) - H(x,y).$$

It will be seen that T has the properties of a measure of the correlation (contingency, dependence) between Ecks and Wye. In fact, $1.3863\ nT$ (where n is the number of occurrences of the event that you use to estimate the probabilities involved) is essentially the same as the value of chi square you would compute to test the null hypothesis that Ecks and Wye are independent.

These are the basic ideas behind the general theory. There are many ways to adapt them to specific situations depending on the way the elements of the specific situation are identified with the several variables of the theory. In general, how-

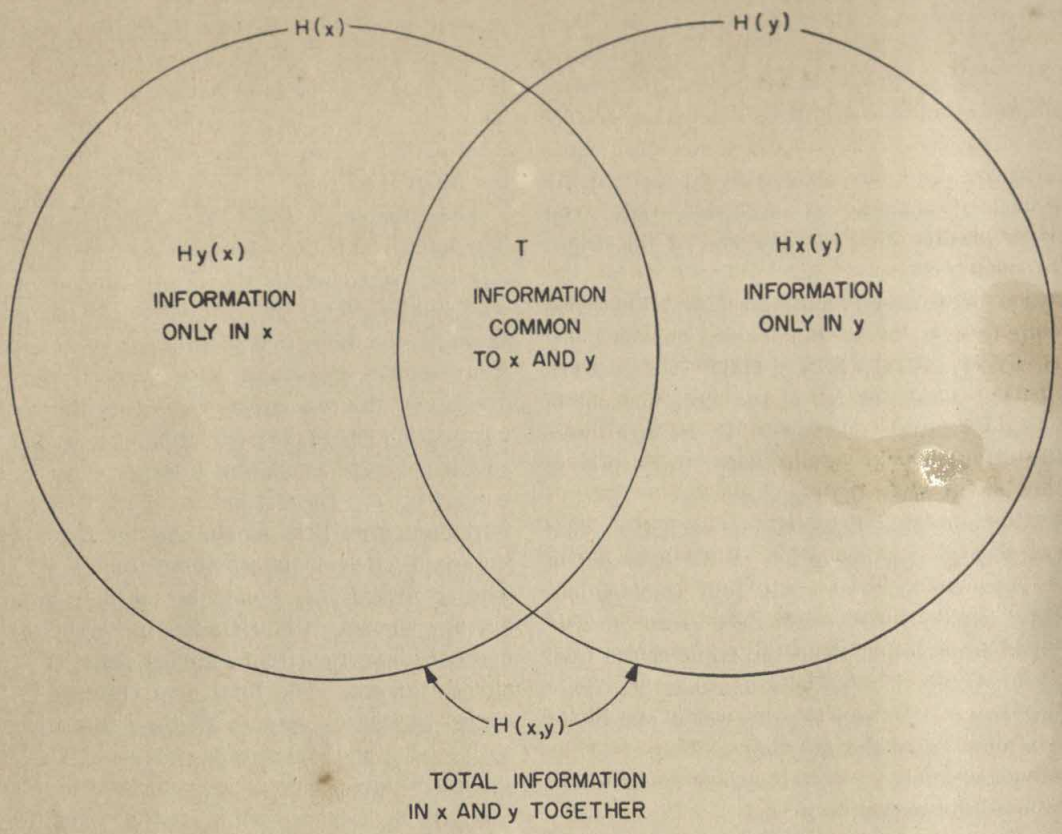


FIG. 1. Schematic representation of the several quantities of information that are involved when messages are received from two related sources.

ever, most applications of the theory seem to fall into one or the other of two types. I shall refer to these two as the *transmission situation* and the *sequential situation*.

THE TRANSMISSION SITUATION

When information is communicated from one place to another, it is necessary to have a channel over which it can travel. If you put a message in at one end of the channel, another message comes out the other end. So the communication engineer talks about the "input" to the channel and the "output" from the channel. For a good channel, the input and the output are closely related but usually not identical. The input is changed, more or less, in the process of transmission. If the changes are random, the communication engineer talks about "noise" in the channel. Thus the output depends upon both the input and the noise.

Now we want to identify the variables in this transmission situation with the various quantities of information pictured in Fig. 1. In order to do this, we let x be the source that generates the input information and let y be the source that generates the output information. That is to say, y is the channel itself. Since x and y are related sources of information, the overlap or common information is what is transmitted. $H(x)$ is the average amount of input information, $H(y)$ is the average amount of output information, and T is the average amount of transmitted information. (To keep terms uniform, we might refer to T as the average amount of "throughput" information.)

What interpretation can we give to $H_y(x)$ and $H_x(y)$? $H_y(x)$ is information that is put in but not gotten out—it is information *lost* in transmission. $H_y(x)$ is often called "equivocation" because a receiver cannot decide whether or not it was sent. Similarly, $H_x(y)$ is information that comes out without being put in—it is information *added* in transmission. $H_x(y)$ is called "noise" with the idea that the irrelevant parts of the output interfere with good communications.

Finally, $H(x,y)$ is the total amount of information you have when you know both the input and the output. Thus $H(x,y)$ includes the lost, the transmitted, and the added information,

$$H(x,y) = H_y(x) + T + H_x(y),$$

equivocation plus transmission plus noise.

This interpretation of the basic concepts of information theory is ordinarily used with the object of computing T, the amount of information transmitted by the channel. A characteristic of most communication channels is that there is an upper limit to the amount of information they can transmit. This upper limit is called the "channel capacity" and is symbolized by C. As the amount of information in the input is increased, there comes a point at which the amount of transmitted information no longer increases. Thus as $H(x)$ increases, T approaches an upper limit, C. This situation is shown graphically in Fig. 2, where T is plotted as a function of $H(x)$.

The obvious psychological analogy to the transmission situation is between the subject in an experiment and a communication channel, between stimuli and inputs, and between responses and outputs. Then $H(x)$ is the stimulus information, $H(y)$ is the response information, and T measures the degree of dependence of responses upon stimuli. It turns out that T can be considered as a measure of discrimination, and C is the basic capacity of the subject to discriminate among the given stimuli. That is to say, C can be interpreted as a sort of modern version of the traditional Weber-fraction.

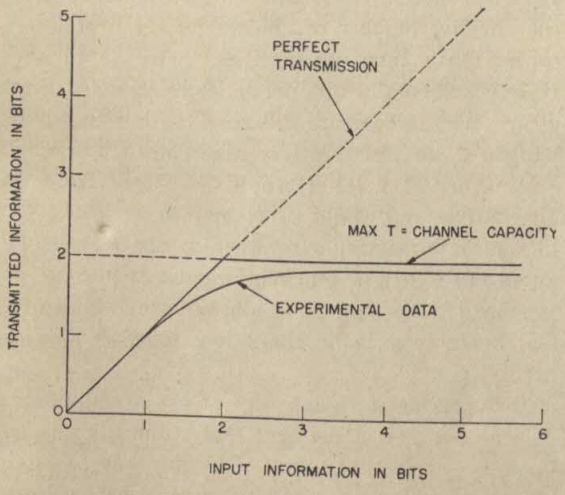


FIG. 2. Illustrative graph showing the amount of transmitted information as a function of the amount of input information for a system with a channel capacity of 2 bits.

In order to explain how T and C measure the discriminative abilities of the subject, a simple example is useful. Imagine a subject can discriminate perfectly among four classes of stimuli. Any two stimuli in the same class are indistinguishable to him, but two stimuli from different classes are never confused. If we pick the stimuli carefully from different classes, therefore, he can distinguish perfectly which one of two, of three, or of four alternative stimuli we present. However, there is no way we can pick five or more stimuli so that he can discriminate them without any mistakes; at least two must be from the same class and so will be confused. If we select k stimuli to test him with, the best he can do is to reduce k to $k/4$ by saying which of his four classes each stimulus belongs in. He can never reduce the range of possible inputs to less than $k/4$. Thus his channel capacity, C, is $\log_2 4$, or 2 bits, and this is the maximum value of T we can get from him. Since 2^C is the maximum number of discriminably different classes of stimuli for this subject, C is a measure of his basic discriminative capacity.

Another psychological analogy to the transmission situation arises in mental testing. A test is a device for discriminating among people, with respect to some psychological dimension. Each person who takes the test has some true value on this dimension. The result of the test is a score that will, with more or less accuracy, tell us what this value is. So we can think of the test as a communication channel. The true values are the input information, and the test scores are the output information. If it is a good test, if T is large and the noise, $H_x(y)$, is small, then the test may discriminate rather accurately among the people who take it. In other words, 2^T would tell us how many classes of people we can distinguish by using this test.

It requires only a slight extension of this analogy to see the similarity between any process of measurement and the transmission situation. Nature provides the input, the process of measurement is the channel, and the measurements themselves are the output. In this context, the information of the communication engineer is quite similar to the information that R. A. Fisher defined many years ago and used as the foundation for his development of a theory of statistical inference. Considered in this

sense, the possible applications of information theory are as broad as scientific measurement itself.

For the psychologist interested in the construction of scales of measurement, information theory will be a valuable tool. He will find that most of the things it tells him he could have learned just as well by more traditional statistical procedures, but the analogy to the transmission situation will undoubtedly stimulate insights and suggest new approaches to old problems.

THE SEQUENTIAL SITUATION

In all that has been said so far it has been implicitly assumed that successive occurrences of the event are independent. When we are dealing with behavioral processes, this assumption is never better than a first approximation. What we are going to do is conditioned by what we have just done, whether we are carrying out the day's work, writing a letter, or producing a random sequence of digits.

Although any behavioral sequence can be analyzed to discover its conditional probabilities, the most interesting example is our own verbal behavior. To take an obvious case, imagine that you are typing a letter and that you have just typed, "I hope we will see you again very." You need at least one more word to complete the sentence. You cannot open the dictionary at random to get this next word. The whole context of the sentence constrains your freedom of choice. The next word depends on the preceding words. Your most probable choice is "soon," although you might choose "often" or "much." You will certainly not choose "bluejay," or "the," or "take," etc. The effect of these constraints built into normal English usage is to reduce the number of alternatives from which successive words are chosen. We have already seen that when the number of possible outcomes of a choice is reduced, some information has been communicated. That is to say, by reducing the range of choice, the context gives us information about what the next item is going to be. Thus when the next word occurs, some of the information it conveys is identical with information we have already received from the context. This repeated information is called "redundancy."

How can the variables in this sequential situation be identified with the various quantities of information pictured in Fig. 1? In order to relate them we let x be the source that generates the context and let y be the source that generates the next word. Since x and y are related sources of information, the overlap or common information from x and y is the redundancy. $H(x)$ is the average amount of information in the first $n-1$ words (the context), $H(y)$ is the average amount of information in the nth word, and T is the average amount of redundant information. $H_y(x)$ is the average amount of information in the context that is unrelated to the next word. $H_x(y)$ is the average amount of information in the next word that cannot be obtained from the context. $H(x,y)$ is the total amount of information we have when all n words, the context plus the next word, are known.

When this interpretation of the basic concepts is used, the quantity of major interest is ordinarily $H_x(y)$, the average amount of information per word when the context is known. $H_x(y)$ can be thought of as the additional information we can expect from each new word in the sequence. Thus $H_x(y)$ is closely related to the *rate* at which information is generated by the source; it measures the average number of bits per unit (per word).

If the successive units in a sequence are chosen independently, then the redundancy T is zero and the context tells us nothing about the next unit. If the next unit is completely determined by the context—for example, in English a "q" is always followed by "u"—then the new information $H_x(y)$ is zero and the occurrence of the next unit adds nothing to what we already know.

Sequences of letters in written English have been studied with this model. It has been estimated that a context of 100 letters will, on the average, reduce the effective number of choices for the next letter to less than three possibilities. That is to say, $H_x(y)$ is about 1.4 bits per letter in standard English. We can compare this result with what would happen if successive letters were chosen independently; then each letter would be chosen from 26 alternatives and would carry $\log_2 26$, or about 4.7 bits of information. In other words, we encode about one-fourth as much information per letter as we might if we used our alphabet more efficiently. Our books seem to be about four times as long as necessary.

It is reasonable to ask why we are so redundant. The answer lies in the fact that redundancy is an insurance against mistakes. The only way to catch an error is to repeat. Redundant information is an automatic mistake-catcher built into all natural languages. Of course, if there is no chance of error,

then there is no need for redundancy. The large amount of redundancy that we seem to insist on reflects our basic inefficiency as information-handling systems. Compared with the thousands or millions of bits per second that electronic devices can handle, man's performance figures (always less than 50 bits per second and usually much lower if memory is involved) can charitably be called puny. By making our languages redundant we are able to decrease the rate, $H_x(y)$, to a point where we can cope with what is being said.

Knowledge of the redundancy of English is knowledge about our verbal habits. Since so much of man's behavior is conditioned by these verbal habits, any way to measure them should interest a psychologist. For example, a verbal learning experiment might compare the memorization of ten consonant-vowel-consonant nonsense syllables (30 letters in all) with the memorization of a 30-letter sentence from English text. Since the successive letters in the nonsense syllables are effectively independent, the learner faces many more possible sequences than he does if he knows that the 30 letters are English text. Since he has already learned the redundancies of English, he is required to assimilate less new information from the sentences than from the nonsense syllables. A knowledge of the information in sequences of letters in English text thus gives us an independent, quantitative estimate of previous learning. In short, the sequential application of information concepts enables us to calibrate our verbal learning materials and so to control in a quantitative way factors that we have always discussed before in qualitative terms.

It is not necessary to confine the sequential interpretation to verbal behavior. It can be applied whenever an organism adopts a reasonably stable "course of action" that can be described probabilistically. If the course of action is coherent in such a way that future conduct depends upon past conduct, we say the behavior is predictable or, to some degree, stereotyped. In such cases, the redundancy T can be used to measure the stereotypy. Arguments about the degree of organization in emotional behavior, for example, might be clarified by such a measure.

Taken together, the sequential and the transmission situations suggest a wide range of possible applications in psychology. The idea of reviewing some of the applications already made by psychologists is tempting, but space prevents it here. The reader who wants to follow up these ideas in more concrete terms should find the annotated references given below a good starting point.

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Manuscript received May 14, 1952

TRAINING FACILITIES AND FINANCIAL ASSISTANCE FOR GRADUATE STUDENTS IN PSYCHOLOGY: 1953–1954

OFFICE OF THE EXECUTIVE SECRETARY, AMERICAN PSYCHOLOGICAL ASSOCIATION

FOR the past eight years the *American Psychologist* has published annually an article for students who plan to do graduate work in psychology and for instructors who must advise these students. Some of the articles have been concerned primarily with training facilities; others have emphasized scholarships, fellowships, assistantships, and other forms of financial aid available. Sometimes the article has included both types of information. This year we have again prepared a combined article for 1953–1954.

The information was gathered by sending a questionnaire to all institutions listed in previous articles in the series. Questionnaires were also sent to all universities named in the American Council on Education's *American Universities and Colleges* (3) as offering graduate training. An innovation this year is the inclusion of several Canadian universities which have graduate training in psychology. All schools returning the questionnaire and stating that they gave work in psychology at the graduate level are included in the section on training facilities. In a few rare instances, schools indicated that although a limited amount of work at the graduate level was available, they preferred not to be listed in the article; these schools have not been included. Any school stating that it had no graduate work in psychology was, of course, omitted. Schools not submitting information for 1953–1954 are not included; no listing based on information submitted in previous years has been used. There are, thus, certain omissions resulting from the fact that a school did not send current information. Actually, surprisingly few schools did not return a questionnaire. The staff of the APA Central Office is grateful for the prompt replies and generally excellent cooperation received from the department chairmen.

GRADUATE TRAINING FACILITIES

Table 1 summarizes the information about training facilities in psychology. Although the table gives the essential data, it must, of necessity, present a greatly condensed version of the many ramifications and idiosyncrasies of individual departments. For example, some departments put most emphasis upon research, others on professional training. The administrative structure of the institution may influence the training program, and the size of the school and the department also has an important bearing on the kind of training the student will receive. Needless to say, the interests of the faculty members color the whole training program, especially at the graduate level where much of the work is done on a seminar or personal-supervision basis. The student should probably use the table only as a general guide and should obtain further information by consulting the university's catalog, talking with psychologists who are familiar with the department, or writing for details directly to the department in which he is interested. Very often departments have prepared statements, describing the goals of their training programs, their admission requirements, and the steps a student must take to obtain an advanced degree.

The name of the university or college is listed in the first column of Table 1. Although in most universities psychological training is given in the department of psychology, in some cases there are also specialized departments or committees which offer training in particular fields. These specialized departments are listed under the name of the university. Furthermore, the listings in the table do not necessarily include all types of training related to psychology, such as industrial relations, remedial reading, business administration, etc., which are often administered by other departments.

In the second column is the name of the administrative officer in the department or division. Practically always, this administrative officer is the chairman, or the acting chairman, of the department of psychology. Students who are seeking specific information about a department should

TABLE 1

Fields of psychology in which graduate training is offered

Institution	Administrative Officer	No. of Degrees Granted, 1949–52		Experimental	Child & Devel.	Educational	Soc. & Pers.	Clinical	Counseling	Tests & Meas.	Industrial	Applied Social	General preparation for PhD
		Doctoral	Master's										
Acadia U., Nova Scotia	P. L. Newbigging		5	M	M		M			M			
Adelphi College	O. D. Anderson	1	8	DM				D					
Alabama Polytechnic Inst.[4]	S. C. McIntyre		4	M	M		M	M		M			M
Alabama, U. of	Oliver L. Lacey		11	M	M			M	M	M			M
Alberta, U. of													
Phil. and Psych.	Douglas E. Smith		6	M			M	M	M	M	M		M
Educational Psych.	G. W. Dunlop		16	M	M	M	M	M	M	M			M
American U.[4]	C. K. Trueblood		6			M	M	M	M	M			
Appalachian St. Teach. Coll.	Chapell Wilson		326		M	M	M		M	M			
Arkansas, U. of	M. E. Thompson		17	M									M
Ball State Teach. Coll.	L. D. Edmunson	1	101		D[12]M	D[12]			D[12]M				
Baylor U.	E. O. Wood		19	M	M	M[2]	M	M	M	M	M	M	M
Boston U.	W. J. Pinard	11	99	D[8]		D[8]	D[8]	D[1, 8]			D[8]		M[8]
Bowling Green State U.	J. E. Wenrick		27	M				M	M				
Brigham Young U.	Mark K. Allen		1	M		M		M	M[2]				M
British Columbia, U. of	Barnett Savery		18	M	M	M[2]	M	DM	M	M	M	M[2]	M
Brooklyn College	Wayne Dennis		9										M
Brown U.	W. S. Hunter	6	14	DM									
Bryn Mawr College	Joe K. Adams	1	4	DM	DM	DM	DM	DM		DM			
Buffalo, U. of	Olive P. Lester	3	14	DM	M	DM[2]	DM	D[1]M	DM	M	M	DM	M
Butler U.	Charles C. Josey		7					M					M
California, U. of													
Berkeley	Clarence W. Brown	39	45	DM	DM	DM[2]	DM	D[1]M		DM	DM	DM	M
Los Angeles	J. A. Gengerelli	35	80	DM	DM		DM	D[1]M	DM	DM	DM		
Carnegie Inst. of Tech.	B. von H. Gilmer	1	4	DM							DM		
Catholic U. of America	John W. Stafford	17	60	DM	DM		DM	D[1]M	DM	DM		DM	M
Chicago, U. of													
Dept. of Psych.	James G. Miller	61	19	D	D		D	D[1]		D			
Com. on Hum. Devel.	R. J. Havighurst	49	54	DM	DM	DM	DM		DM	DM	DM		
Chico State College	J. C. Narciso, Jr.		6						M				
Cincinnati, U. of	Arthur G. Bills	6	12	DM		D[2]			M	M	M		M
City Coll. of N. Y.	John Gray Peatman		8				M						M
Claremont Coll.	F. T. Perkins	5	25	DM	DM	DM	DM	DM	DM	M		DM	

TABLE 1—*Continued*

Institution	Administrative Officer	No. of Degrees Granted, 1949–52		Experimental	Child & Devel.	Educational	Soc & Pers.	Clinical	Counseling	Tests & Meas.	Industrial	Applied Social	General preparation for PhD
		Doctoral	Master's										
Clark U.	Heinz Werner	10	24	DM	DM		DM	D[1]M					
Colgate U.[5]	G. H. Estabrooks		2										
Colorado Coll.	W. A. Blakely		3	M	M	M	M	M	M	M			
Colorado, U. of	Maurice P. Smith	9	17	DM	M		DM	D[1]M	DM	M		M	M
Columbia U.													
Dept. of Psych.	Henry E. Garrett	58	91	D[9]			D[9]			D[9]	D[9]		
Teachers College													
Dept. of Guidance	L. F. Shaffer	31[11]	—[6]					D[1, 3]	D[3]		D[3]	D[3]	
Dept. of Psychological Foundations	A. I. Gates	20	146		DM	DM	DM			DM			
Connecticut Coll.[4]	M. H. Applezweig			M	M		M						M
Connecticut, U. of	W. A. Bousfield	2	42	DM			DM	D[1]M[3]					M
Cornell U.													
Child Devel. & Fam. Rel.	Robert H. Dalton	7	28		DM								
Dept. of Psych.	Robert B. MacLeod	10	10	DM		DM[2]	DM			DM	DM		
School of Educ.	A. L. Winsor	72	63			DM			DM	DM			
Creighton U.	Leo R. Kennedy		66			M[2]	M[2]		M[2]	M[2]			M[2]
Dalhousie U.[4]	F. Hilton Page		9				M	M	M	M			
Delaware, U. of	H. M. MacPhee		10	M	M	M	M	M	M	M	M		M
De Paul U.[4]	R. J. McCall				M			M	M	M			M
DePauw U.	K. S. Wagoner		1	M					M				M
Detroit	A. A. Schneiders		20	M			M	M	M	M			M
Duke U.	Eliot H. Rodnick	11	5	DM		DM[2]	DM	D[1]	D	DM			M
Emory U.	M. C. Langhorne		21	DM									M
Florida State U.	Hugh L. Waskom		68	DM	DM	DM		DM	DM				
Florida, U. of	E. D. Hinckley	1	51	DM			DM	DM	DM	DM			
Fordham U.	Joseph G. Keegan	17	80	DM	DM		DM	DM					
Fort Hays Kansas St. Coll.	H. B. Reed		4	M		M		M		M			M
Fresno State Coll.[4]	Edward V. Tenney		1					M					
George Peabody Coll.[15]	Nicholas Hobbs		16			DM			DM	DM			
George Pepperdine Coll.	E. L. Shostrom		2			M			M				M
George Washington U.	Thelma Hunt	1	74	DM			DM	M	DM	DM	DM		M
Georgia, U. of	Hudson Jost		18	M				M		M	M		M
Harvard U.													
Dept. of Psych.	Edwin B. Newman	8		D[3]									
Dept. of Soc. Rel.	Talcott Parsons	37	53		DM		DM	D[1]M	DM	DM			M
Grad. School of Educ.	Francis Keppel	5	—[6]		DM[8]	D[8]			D[8]	D[8]			

TABLE 1—*Continued*

Institution	Administrative Officer	No. of Degrees Granted, 1949–52		Experimental	Child & Devel.	Educational	Soc. & Pers.	Clinical	Counseling	Tests & Meas.	Industrial	Applied Social	General preparation for PhD
		Doctoral	Master's										
Hawaii, U. of	H. B. Weaver		8		M		M	M	M	M	M		
Houston, U. of	L. T. Callicutt		43	M	M	DM	M	D	DM	M	DM		M
Howard U.	F. C. Sumner		20										M
Hunter Coll.	J. M. O'Gorman					M[13]							
Idaho, U. of	Wm. H. Boyer		10	M		M			M	M			M
Illinois Inst. Technology	P. S. Shurrager	1	27	DM			DM			DM	DM	DM	M
Illinois State Norm. U.	C. A. De Young		7						M				
Illinois, U. of													
Dept. of Psych.	Lyle H. Lanier	21	113	DM			D	D[1]	D		D		M
College of Educ.	W. B. Spalding	26	1,348		DM	DM			DM	DM		DM	
Indiana U.	J. R. Kantor	19	23	DM				D[1]M					
Iowa State Coll.	W. A. Owens, Jr.		18	M	M[2]				M	M	M	M[2]	M
Iowa, State U. of													
Dept. of Psych.	Judson S. Brown	69	59	DM	DM[2]	DM[2]	DM	D[1]M	DM	DM	DM[2]		M
Child Welfare Res.	B. R. McCandless	12	34		DM	DM							
Johns Hopkins U.	C. T. Morgan	7	5	DM		DM		DM		DM	DM		
Kansas City, U. of	Lorenz Misbach		14	M	M	M	M	M	M				
Kansas State Coll., Manhattan	A. H. Brayfield		14			M			M		M	M	M
Kansas State Teach. Coll.,[6] Emporia	J. H. Buchanan					M							
Kansas State Teach Coll., Pittsburg	William A. Black		11	M	M	M	M		M	M			
Kansas, U. of	A. L. Baldwin	16	15	D	D		D	D[1]			D		
Kent State U.	R. M. Drake		43	M	M		M	M		M	M		
Kentucky, U. of	James S. Calvin	26	25	DM				D[1]M	DM	M	M		M
Lehigh U.	Adelbert Ford		11	M				M[10]		M	M		M
Long Beach State Coll.[4]	W. H. Moore		51	M	M	M	M	M	M	M	M		M
Long Island U.	J. I. Hartstein		4	M		M		M	M	M			M
Los Angeles Coll.[4]	H. Wilkening					M							
Louisiana State U.	Paul C. Young		20	M		M	M	DM	M	M	M		M
Louisville, U. of	Raymond A. Kemper		24	M	M	M	M	M	M	M	M	M	M
Loyola U., Chicago	Vincent V. Herr	5	25	DM		D[2]M	DM	DM				DM	M
MacMurray Coll.	H. M. Halverson		18					M	M				
McGill U.	D. O. Hebb	13	38	DM	DM		DM	M	DM	DM	DM		
Maine, U. of	A. D. Glanville		8	M				M					M
Manitoba, U. of	B. M. Springbett		8	M			M						M
Marshall Coll.	K. K. Loemker		17										M
Maryland, U. of	T. G. Andrews	13	17	DM			DM		DM	DM	DM		M
Massachusetts, U. of	C. C. Neet		18	M	M		M	M	M		M		M
Miami, U., Oxford, Ohio	E. F. Patten		1	M	M			M		M			

TABLE 1—(*Continued*)

Institution	Administrative Officer	No. of Degrees Granted, 1949–52		Experimental	Child & Devel.	Educational	Soc. & Pers.	Clinical	Counseling	Tests & Meas.	Industrial	Applied Social	General preparation for PhD
		Doctoral	Master's										
Miami, U. of	G. C. Fisher		51	M				M					M
Michigan State Coll.	H. H. Anderson	7	47	DM	DM		DM	D[1]	D	DM	DM	DM	M
Michigan, U. of	D. G. Marquis	70	73	D			D	D[1]		D	D	D	
Mills Coll.	Mary W. Bennett		10		M[2]	M[2]	M	M	M[2]				M
Minnesota, U. of	Paul E. Meehl	20	64	DM			DM	D[1]M	DM	DM	DM	DM	M
Mississippi, U. of	John B. Wolfe		15	M	M				M	M			M
Missouri, U. of	Fred McKinney		23	DM	M	DM[2]	DM	DM	DM[2]	M			M
Montana, U. of	E. A. Atkinson		4	M				M	M				M
Montréal, Université de	Noël Mailloux	2	29	M	M	DM	DM	DM	DM	DM		M	M
Nebraska, U. of	D. W. Dysinger	3	16	DM				D[1]		DM			M
Nevada, U. of	Ralph A. Irwin		2							M		M	M
New Brunswick, U. of[4]	F. T. Snodgrass					M	M			M			
New Hampshire, U. of	H. A. Carroll		9				M	M	M				
New Haven State Teach Coll.	Edwin L. Martin		134		M	M	M	M	M	M			
New Mexico Coll. of A. & M	Claude C. Dove		4										M
New Mexico, Eastern U.	D. H. Reed		9		M	M	M		M	M	M		M
New Mexico Highlands U.	Anna Y. Martin		19					M					M
New Mexico, U. of	G. M. Peterson		16	M	M	M	M	M	M	M	M		
New School for Social Res.	Mary Henle	6	39	D			D			M			M
New York U.													
Dept. of Psych.	Stuart W. Cook	33	44	DM	M		D	D[1]	D	M	DM	D	
Dept. of Educ. Psych.	C. E. Skinner	114	526	DM	DM	DM		DM	D[2]M	DM			M
North Carolina Coll., Durham	E. T. Kyle				M				M	M			
North Carolina State Coll.	D. J. Moffie		14								M		
North Carolina, U. of	Dorothy C. Adkins	2	13	DM			DM	D[1]M		DM		DM	M
North Dakota, U. of	H. F. Buegel	7	7	DM		M		M	M	M			M
Northwestern U.	William A. Hunt	31	47	DM			DM	D[1]M	DM	DM			
Oberlin Coll.	L. E. Cole		6	M									
Occidental Coll.	G. Brighouse		39	M	M			M	M	M	M		M
Ohio State U.	H. E. Burtt	74	61	DM	DM	DM	DM	DM	DM	DM	DM		M
Ohio Wesleyan U.	R. R. Greene		6						M				
Oklahoma A & M Coll.	S. L. Reed	7	19		M	M			DM		M		M
Oklahoma, U. of	M. O. Wilson	2	35	DM	D[2]M	DM	DM	D	DM[2]	M	M		
Omaha, U. of	W. H. Thompson		16			M		M	M		M		M
Oregon, U. of	H. R. Taylor		54	DM	DM	DM	DM		DM	DM	M		M
Ottawa, U. of	R. H. Shevenell	9	20			DM		DM	DM	DM			
Pacific U.	Anna Berliner		1	M				M					

TABLE 1—(*Continued*)

Institution	Administrative Officer	No. of Degrees Granted, 1949–52		Experimental	Child & Devel.	Educational	Soc. & Pers.	Clinical	Counseling	Tests & Meas.	Industrial	Applied Social	General preparation for PhD
		Doctoral	Master's										
Pennsylvania State Coll.	C. R. Carpenter	30	90	DM	DM[2]	DM	DM	D[1]M	DM	DM	DM	DM	M
Pennsylvania, U. of	R. A. Brotemarkle	27	78	D[8]	D[8]	D[8]	D[8]	D[1, 8]	D[8]	D[8]	D[8]	D[8]	M[8]
Pittsburgh, U. of	Robert A. Patton	51	68	DM	M	DM	DM	D[1]M	DM	DM	DM		
Portland, U. of	John B. Delaunay	2	9	M		M		DM	DM	M	M		
Princeton U.	Carroll C. Pratt	16	17	DM			DM			DM			
Purdue U.	E. J. Asher	54	102	DM	M	DM	M	D[1]M	DM	DM	DM	DM	
Queen's University, Kingston, Can.	J. M. Blackburn		8	M			M	M					
Radcliffe Coll.[14]	Edwin B. Newman	1											
Richmond Professional Inst.[4]	V. J. Bieliauskas		6		M		M	M	M	M	M		M
Richmond, U. of	M. E. Carver		5										M
Rochester, U. of	G. R. Wendt	12	5	D[3]			D[3]	D[1, 3]		D[3]	D[3]		
Roosevelt Coll.[4]	G. W. Hartmann		2	M	M	M	M	M	M	M	M	M	M
Rutgers U.	Morgan Upton		3	M			M			M	D		M
Sacramento State Coll.	James D. Lucas		5						M				M
St. Louis U.	W. L. Wilkins		7	M	M		M	M		M			
San Diego State Coll.	H. B. Carlson		3	M	M	M	M	M	M	M			M
San Francisco State Coll.	Louis S. Levine		7			M		M					
San Jose State Coll.	C. W. Telford		19	M	M	M	M		M	M	M		M
Sarah Lawrence Coll.	B. Steinzor				M	M	M						
Saskatchewan, U. of	G. A. McMurray		2	M			M						
Smith Coll.	H. E. Israel		3	M	M	M	M			M			M
South Carolina, U. of	M. K. Walsh		16				M	M					M
South Dakota, U. of	Henry V. Cobb		11	M	M		M	M	M				M
Southern California, U. of	Constance Lovell	41	38	DM				D[1]		DM	DM		
Southern Methodist U.	Alvin J. North		48				M	M[10]			M		M
Southwestern U.	Oscar A. Ullrich			M	M	M	M			M			
Springfield Coll.	Seth Arsenian		54						M				M
Stanford U.	Robert R. Sears	33	42	D[8]	D[8]	D[8]	D[8]	D[1, 8]	D[2, 8]	D[8]	D[8]	D[8]	M
Swarthmore Coll.	Hans Wallach		5	M			M						
Syracuse U.	C. Robert Pace	22	—[6]	M	DM	DM	DM	DM	DM	DM	DM		
Temple U.	C. H. Smeltzer	9	195	DM	DM	DM		DM	DM	DM	DM		
Tennessee, U. of	E. E. Cureton	9	24	DM				D[1]M		DM	DM		M
Texas Christian U.	C. W. LaGrone		16					M	M				M
Texas Coll. of Arts and Ind.	H. T. Croley		1						M				M
Texas State Coll., North	Merl E. Bonney		18			M	M	M	M				M
Texas Tech. Coll.	L. C. Hutchins		3			DM			DM		M		M

TABLE 1—(*Continued*)

Institution	Administrative Officer	No. of Degrees Granted, 1949–52		Experimental	Child & Devel.	Educational	Soc. & Pers.	Clinical	Counseling	Tests & Meas.	Industrial	Applied Social	General preparation for PhD
		Doctoral	Master's										
Texas, U. of													
Dept. of Psych.	K. M. Dallenbach	20	66	DM	DM		DM	D[1]		DM	M		M
Dept. of Educ. Psych.	O. B. Douglas	10	179		DM	DM			DM	DM			
Toledo, U. of	P. W. Stansbury		15		M	M	M		M	M	M		M
Trinity Coll., Hartford, Conn.	A. H. Souerwine		7						M		M		M
Trinity U., Hartford, Conn.	Felix Ullrich		7										M
Tufts Coll.	Leonard C. Mead		3	M									M
Tulane U.	Arthur L. Irion	9	16	DM									M
Tulsa, U. of	L. S. McLeod		35	M				M[10]			M		M
Utah State Agric. Coll.	Arden Frandsen		21		M	M		M	M	M			M
Utah, U. of	S. L. Crawley	4	32	DM	M	—[2]	M	DM	—[2]	DM	M	DM	M
Vanderbilt U.	Leland E. Thune	3	12	DM			M	D[1]M	M	M		M	
Vassar Coll.	D. W. Chapman		1				M	M					M
Vermont, U. of	John T. Metcalf			M			M						M
Virginia State Coll.	Walter N. Ridley		8			M			M				
Virginia, U. of	Frank A. Geldard	6	14	DM									M
Washington, State Coll. of	James H. Elder	3	40	D	M		D	M	M	D	M		
Washington U., St. Louis	Marion E. Bunch	26	11	DM	D	M	D	D[1]	M	DM	DM		
Washington, U. of, Seattle	R. B. Loucks	9	38	DM	DM	DM	DM	DM		DM			M
Wayne U.	W. C. F. Krueger		9					M			M	M	M
Wellesley Coll.	M. J. Zigler		5										M
Wesleyan U.	Robert H. Knapp		6										M
Western Ontario, U. of	R. B. Liddy		20		M			M		M			
Western Reserve U.	E. L. Stromberg	32	40	DM			DM	D[1]	DM	M	DM		M
West Virginia U.	Quin F. Curtis		8	M	M		M		M	M	M		
Wichita, U. of	N. H. Pronko		7	M				M	M				M
Wisconsin, U. of	David A. Grant	11	33	DM	M[2]		DM	D[1]M		DM	DM		M
Wyoming, U. of	H. B. McFadden		12	M	M		M			M			M
Yale U.	Claude E. Buxton	20		D	D		D	D		D	D	D	
Yeshiva U.	Julius B. Maller	4	17	DM				DM					M

[1] Approved by APA for doctoral training in clinical psychology.
[2] Degree awarded by another department or school, e.g., education, guidance, business, commerce, etc., or work taken jointly with another department.
[3] No terminal master's degree, but in some cases may be obtained in PhD program.
[4] Recently organized department.
[5] No data about fields.
[6] No data about degrees.
[7] MA is general preparation for PhD.
[8] Master's offered but without specialization.
[9] Doctor's not awarded in specific fields, but thesis may be in various areas.
[10] Preclinical preparation.
[11] Data for PhD's in clinical only.
[12] EdD in conjunction with Indiana U.
[13] Graduate training in educational psychology.
[14] See listings under Harvard University.
[15] Program offered in conjunction with Vanderbilt University.

address their letters to this person. Use of the title "Dr." is ordinarily preferred.

The first letter of inquiry should be sent well in advance of the expected date of entrance. In addition to requesting information, this letter should also supply the department with information about the student, including such facts as his undergraduate training, any previous graduate work, experience, vocational plans, and financial status. Upon receipt of this letter, the department or graduate school will usually send the student a formal application blank, as well as answering any specific questions.

Although most graduate departments are not so overcrowded as they were during the years immediately following the war, selection of students continues to be rigorous. Because advanced graduate training is tutorial and closely supervised, departments usually try to keep their enrollment to a size that can be effectively handled.

Entrance requirements for admission to graduate work in psychology vary widely. However, it is almost invariably true that a superior undergraduate record is required. Some departments require or deem advisable certain types of undergraduate training in psychology and other fields; others require only the successful completion of the baccalaureate degree. Some departments like to have a personal interview with the applicant. Detailed information will usually be sent to a prospective applicant at the time he is sent an application blank by the institution. Such information can also usually be found in the university's graduate catalog.

The third and fourth columns of Table 1 give the numbers of graduate degrees, as reported by the institutions, for the past three academic years. For the student probably the most meaningful implication in these figures is that they reveal, in a very general way, the approximate numbers of graduate students in the department. The figures are, of course, for the past three years when many departments were swollen beyond their normal size by the influx of veterans working under the G.I. Bill. In some cases, moreover, a small number of degrees granted in these years may mean merely that the department has only recently been organized and there has not yet been time for many students to complete their degree work.

The next ten columns show the fields of specialization and the degrees awarded. The questionnaire requested the department chairman to check only those fields in which (*a*) the department had awarded a degree within the past five years to a student specializing in this area and/or (*b*) the department had at least two faculty members qualified to supervise students specializing in this area.

To abbreviate in a table all of the many possible psychological specialties sometimes does an injustice to the department. The fields listed are, however, the most common and well-known designations. "Experimental," as a field, is sometimes referred to as "general experimental psychology." Ordinarily, though by no means always, it also covers the fields of comparative and physiological psychology. Work in child and developmental psychology and in educational psychology is often offered in conjunction with another department. The fields of social psychology and personality have been grouped under one heading because in most institutions they are offered as a combined program. Occasionally, however, social psychology may be a separate specialty. Clinical, counseling, and industrial psychology are generally professional fields. Tests and measurements refers more to training in the technical aspects of psychological tests than to clinical testing, and includes statistics and psychometrics. "Applied social" is generally the more professional application of social psychology, such as market research, polling, and certain techniques in group dynamics, etc.

In these columns the letter "M" stands for master's degree (MA, MS, MEd) and the letter "D" for doctoral degree (PhD, EdD). We have not attempted to specify which particular degree is awarded, but only to indicate the level of training. Some universities limit their graduate training to students who aspire to the doctoral degree. This is especially true in the area of clinical psychology. Students who intend to enter such programs should be prepared to spend three to four, or sometimes more, years in graduate school and should make their financial plans accordingly. In contrast, other schools concentrate on work to the master's level, either as a terminal degree or as general preparation for the doctorate.

The student examining this table should be careful not to overlook the footnotes which give additional facts, and sometimes exceptions, to the general information in the table. A special word of caution should be attached to footnote 1, which states "Approved by APA for doctoral training in clinical psychology." The institutions so desig-

nated are those which, upon their own request, have been evaluated by the Education and Training Board of the American Psychological Association and approved for doctoral training in clinical psychology. This approval has no implication whatsoever for the training program in any of the other fields.

Two other points deserve emphasis. First, the advanced degree itself is usually not specifically granted in one of these fields. That is, the degree awarded will be a "PhD in Psychology" not, for example, a "PhD in Tests and Measurement." However, after completion of basic work in psychology most students will go on to these more specialized fields and the dissertation or thesis will be on a specialized topic. Second, these fields do not necessarily refer to job specialties. To take a specific case, "School Psychologist" is not mentioned because it very seldom happens that an institution will offer training designed for this particular purpose. More often, the student who plans to do psychological work in the schools would take courses in child and developmental psychology, counseling, tests and measurement, etc., and write a thesis in the particular area in which he is interested. The same applies to various other jobs in psychology.

STIPENDS

The following pages summarize the material submitted concerning financial assistance. Some institutions, although giving graduate work in psychology, reported that no stipends would be available during 1953–1954. These institutions are not included in the section on stipends, but they are on the list in Table 1.

The order of each entry under stipends, the abbreviations used, together with some brief explanatory notes, are as follows:

1. *Name and address of institution:* The name and address of the institution apply throughout the description, and should be added to the names of officials and their departments when writing. If more than one department at a university is listed, the name and address apply to all such departments.

2. *Application for admission:* The student must apply for admission to graduate school as well as applying for stipends. Thus, it is sometimes necessary to write to two persons, one to apply for admission and another to apply for a stipend. Larger universities sometimes request students to apply to the dean of colleges or heads of departments. Smaller universities typically request that applications be made to the Graduate School or Admissions Office.

3. *Graduate Record Examination (GRE) and Miller Analogies Test (MAT):* Because many departments require these two tests as part of their application procedures, information about them is given here. If these tests are required before admission, the department usually has some means of administering them in different cities. Some departments require other tests; information about them will usually be sent to the student when he applies.

4. *Tuition:* Tuition figures are usually for the academic year. In some cases, tuition is given for the quarter or semester, or according to semester or course hours.

The words *resident* and *nonresident* are used by state universities which charge out-of-state residents a larger sum than students from the state itself. The abbreviation *nr* refers to nonresident or out-of-state tuition.

5. *Number of scholarships and fellowships available:* The number listed is usually an approximate one. In most universities scholarships and fellowships are awarded on a merit basis without regard to field of interest, and the applicants in one department are in competition with the applicants in all other departments of the university. For departments which specifically stated that awards were made on a university-wide basis, the term *university scholarships* (or *fellowships*) has been used. Scholarships and fellowships usually do not require any work, and the recipient is expected to enroll as a full-time graduate student.

6. *Number of assistantships available:* Assistantships may be available for either teaching or research or for a combination of both. The terminology here varies with the university. For example, the terms *graduate assistant, laboratory assistant, teaching assistant, clinical assistant,* and *research assistant* are all used. We have not attempted in these entries to go into complete detail regarding the duties required in the various types of assistantships; the student may obtain this information from the department.

Under *teaching assistantship* the entry does not differentiate between a teaching assistantship in which a graduate student has charge of a class and

a teaching assistantship in which the student assists a more advanced teacher by grading papers, acting as laboratory assistant, etc.

Research assistantships are ordinarily granted to students for work on research projects being conducted by members of a department. In some cases various skills, in statistical or laboratory methods, etc., are a prerequisite for these positions, and hence first-year graduate students may not be eligible.

7. *Hours of work:* Hours of work required are usually expressed in hours per week, though sometimes in teaching load or teaching hours. The number of hours indicated should, in many cases, be considered an approximation, especially in the case of research assistantships where the student is ordinarily expected to become part of a research team and also to consider his research work as part of his graduate training, rather than as a job to which he will devote only a limited number of hours.

8. *Stipends:* Stipends are usually expressed in terms of total stipend for an academic year of nine months. If expressed in any other terms, the unit, such as per month, is named. Stipends for assistantships are usually dependent upon difficulty of the work and training and experience required for it. The abbreviation *ex* means that the stipend carries with it exemption from tuition or that the stipend covers the cost of tuition. Thus, an entry *stipend, ex* means that the tuition charges are waived or that the student receives an award equal to the cost of his tuition charges. An entry *stipend, $500 ex* means that the student receives $500 plus exemption from tuition. A frequent advantage of scholarships and assistantships is the exemption from tuition, often a sum larger than the award itself.

9. *New students:* New students are not eligible for the award unless the statement is specifically made that new students are eligible. The statement then applies only to the positions immediately preceding it.

10. *To whom to apply:* Scholarships and fellowships are usually applied for by writing to a university official, since ordinarily these awards are made for the whole institution, and not for just a specific department. Applications for scholarships and fellowships must ordinarily be submitted in time to meet a fairly rigid deadline. Assistantships are usually applied for by writing to the head of a department. In the statements, the person to whom to apply is named following the description of the award or awards for which he receives applications.

11. *VA program:* The Veterans Administration (VA) program provides for training, leading to the PhD degree, of qualified students in clinical psychology. Students enrolled in this program must satisfy the same requirements as other graduate students; they differ from them only with regard to their part-time employment by the VA in hospitals and clinics near the universities in which they are studying. Applications are made to the chairman of the department at any time; appointments are most likely to begin in the fall. Detailed information about the clinical psychology program may be secured by writing the Chief, Clinical Psychology Section, Neuropsychiatry Division, Department of Medicine and Surgery, Veterans Administration, Washington 25, D. C.

The term *VA program* refers only to the program in clinical psychology. The Veterans Administration has recently begun a somewhat similar program in counseling psychology, but at the time the material for this article was assembled insufficient information about the counseling psychologist program was available. Information about this new program may be obtained by writing to the Chief, Vocational Counseling, Professional Services, Department of Medicine and Surgery, Veterans Administration, Washington 25, D. C.

12. *USPHS stipends:* The United States Public Health Service (USPHS) program provides some universities with a limited number of stipends for selected graduate students in clinical psychology. Stipends ordinarily range from $1,200 to $2,400 depending upon the level of training. Universities in which these stipends were available during 1952–1953 are indicated. Applications should be made to the chairman of the department of psychology at the desired university.

13. *Other positions available:* Many departments also have other positions or means of financial assistance for graduate students. If such information was submitted, it is listed in the entry.

In addition, many departments have other positions available than those listed here. Departments are often requested to recommend students for teaching evening classes or courses in nearby smaller colleges. These positions are not usually available on the basis of paper record or application, and hence new students are ordinarily not considered for them. However, they are part of the

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possibilities for part-time employment while a graduate student.

The APA Central Office, through its placement office, has frequent requests from prospective graduate students for part-time employment while pursuing graduate studies. Few such positions are listed with the APA office. The student who wishes part-time work should write directly to the university in which he is interested.

Acadia University, Wolfville, Nova Scotia, Canada. Apply to Registrar before September 1. Tuition: $180 a year. One or two teaching assistantships; 5 hours' work; stipend, $100; new students usually not eligible. Apply by September 1 to Acting Head, Dept. of Psych.

Adelphi College, Garden City, N. Y. Apply for admission to Miss Mary C. McGrillies, Division of Graduate Studies, before April 15. Tuition: $20 per credit. GRE required. Two fellowships; 15 hours' work; stipend, $1,000. Six teaching assistantships; 5–12 hours' work; stipend, $600–1,200. One general graduate assistantship available to new students. Few research assistantships occasionally available. Apply by April 15 to Dr. O. D. Anderson, Chairman, Dept. of Psych.

Alabama Polytechnic Institute, Auburn, Ala. Apply for admission to Dean, Graduate School, one quarter before anticipated registration. Tuition: $105. GRE required on doctoral level only. One research assistantship; 15 hours' work; stipend, $600; new students eligible. One assistantship; 17 hours' work; stipend, $600; new students eligible. Apply by May 1 to Dr. S. C. McIntyre, Dept. of Psych.

Alabama, University of, University, Alabama. Apply for admission to Dr. A. B. Moore, Dean, Graduate School. Tuition: resident, administration fee of $135; nr, administration fee of $135 plus $250 a year. One or two scholarships; no work; stipend, $500 ex (tuition only, not administration fee); new students eligible. Apply by March 1 to Dr. A. B. Moore, Dean, Graduate School. Three teaching assistantships; 15 hours' work; stipend, $833.33 ex (tuition only, not administration fee); new students eligible. Apply to Dr. O. L. Lacey, Chairman, Dept. of Psych.

Alberta, University of, Edmonton, Alberta, Canada. Apply for admission to Dr. O. J. Walker, Director, School of Graduate Studies, before August 15. Tuition: $112.50. One scholarship in mental hygiene or child or educational psychology; no work; stipend, $300. Three fellowships (open to all graduate students); no work; stipend, $900; new students eligible for two fellowships, if Canadian. Apply by April 15 to the Registrar. Variable number of research assistantships, depending on available research grants; up to 20 hours' work; stipend, up to $900; new students eligible.

The above information is based on a combined report from the department of philosophy and psychology and the division of educational psychology. Students are advised to write first, before making formal application, to either Dr. Douglas E. Smith, Head, Dept. of Phil. and Psych., or Dr. G. M. Dunlop, Head, Div. of Educ. Psych.

American University, School of Social Sciences and Public Affairs, Washington, D. C. Apply for admission to Dean Pitman B. Potter, Graduate Division. Tuition: $13 per semester hour. Four teaching fellowships; 6 hours' work; stipend, $1,200 and ex two courses per semester; new students eligible if qualified. Two fellowships for advanced graduate students who are Canadian citizens; no work; stipend, $1,800; new students eligible. Practicums in test construction and occupational research in Dept. of Labor also available. Apply by April 15 to Graduate Dean, School of Social Sciences and Public Affairs.

Appalachian State Teachers College, Boone, N. C. Apply for admission to Mr. Chapell Wilson, Director, Graduate Study, at least 30 days before registration for quarter of proposed entrance. Tuition: $112.50 for three quarters. MAT required. Ten teaching assistantships; 12–24 hours' work; stipend, $300–900; new students eligible. Approximately seven positions as dormitory counselors also available. Apply to Mr. Chapell Wilson, Director Graduate Study.

Arkansas, University of, Fayetteville, Ark. Apply for admission to the Dean of the Graduate School or Chairman of the Dept. of Psych. before April 15. Tuition: resident, $130; nr, $330. Six to ten research assistantships; 15–20 hours' work; stipend, $900–1,200 ex nr fee; new students eligible. Four teaching assistantships; 12 hours' work;

stipend, $600 ex nr fee; new students eligible. Apply by April 15 to Dr. Merrell E. Thompson, Chairman, Dept. of Psych.

Ball State Teachers College, Muncie, Ind. Apply for admission to Dr. Robert Kloenker, Director, Graduate Studies, before September 1. Tuition: resident, $96; nr, $132. Four teaching and counseling assistantships; 20 hours' work; stipend, $1,200–1,500. Apply by September 1 to Dr. L. D. Edmundson, Chairman, Dept. of Psych.

Baylor University, Waco, Texas. Apply for admission to Dr. W. T. Gooch, Dean, Graduate School, two quarters before enrollment. Tuition: $382.50. MAT required. Eight scholarships; 12–15 hours' work; stipend, $600–900; new students eligible after first quarter. Other part-time positions available in University's counseling program. Apply two quarters before enrollment to Chairman, Dept. of Psych.

Boston University, Boston, Mass. Apply for admission to Dean Chester M. Alter, Graduate School, before April 1. Tuition: $550. GRE and MAT requested. One fellowship; 8 hours' work; stipend, $1,000; new students eligible. Eleven teaching and general assistantships; 15 hours' work; stipend, $550; new students eligible. Positions available with contract research projects. Six assistant instructorships; 3–6 semester hours' work; stipend, $80 per semester course hour. VA program. Apply by April 1 to Dr. W. J. Pinard, Chairman, Dept. of Psych.

Bowling Green State University, Bowling Green, Ohio. Apply for admission to Dean, Graduate School, or Chairman, Dept. of Psych. Tuition: resident, $149; nr, $217. Five graduate assistantships; 15–18 hours' work; stipend, $900 ex nr fees; new students eligible. Apply by March 1 to Dr. J. E. Wenrick, Chairman, Dept. of Psych.

Brigham Young University, Provo, Utah. Apply for admission to Dean, Graduate Division, before August 1. Tuition: $135 a year. Two teaching assistantships; 10 hours' work; stipend, $350; new students eligible. Apply by July 1 to Head, Dept. of Psych.

British Columbia, University of, Vancouver, B. C., Canada. Apply for admission to the Registrar before September 1. Tuition: $238. Six to 8 research assistantships; 5 hours' work; stipend, $200–400; new students eligible. Apply by October 1 to Chairman, Dept. of Psych.

Brooklyn College, Brooklyn 10, N. Y. Apply for admission to Director, Graduate Division. Tuition: $10 per semester credit. GRE required. One fellowship; 20 hours' work; stipend, $1,500; new students eligible. Number of research assistantships and teaching assistantships varies; hours of work vary; stipend varies; new students eligible. Other part-time professional positions available. Apply by March 15 to Chairman, Dept. of Psych.

Brown University, Providence 12, R. I. Apply for admission to Dean, Graduate School, before March 1. Tuition: $520. GRE required. Several scholarships; no work; stipend, ex; new students eligible. One fellowship; no work; stipend, $1,000 ex; new students eligible. Three to four research assistantships; 10 hours' work; stipend, $1,000 ex; new students eligible. Nine to ten teaching assistantships; 10 hours' work; stipend, $1,000 ex; new students eligible. Summer research positions also available. Apply in March to Graduate School.

Bryn Mawr College, Bryn Mawr, Pa. Apply for admission to Dean, Graduate School, before March 1. Tuition: $500 per year. Two scholarships; no work; stipend, $800; new students eligible. One fellowship; 1½ hours' work; stipend, $1,500. Two teaching assistantships; 10 hours' work; stipend, $1,150 ex. Apply by March 1 to Dean, Graduate School.

Buffalo, University of, Buffalo 14, N. Y. Apply for admission to Dean, Graduate School of Arts and Sciences, before March 1. Tuition: $550. GRE and MAT required. Three research assistantships; 20 hours' work; stipend, $1,000 ex. Ten assistantships; 10–15 hours' work; stipend, $500–800 ex; new students eligible. Internships available for third and fourth year PhD students in clinical psychology. VA program. Apply by March 15 to Dr. Olive P. Lester, Acting Chairman, Dept. of Psych.

California, University of, Berkeley 4, Calif. Apply for admission to Graduate Division and Dept. of Psych., before February 1. Tuition: resident, $37 per semester; nr, $150 per semester. MAT required. Several university scholarships and fellowships available. Four research assistant-

ships; 20 hours' work; stipend, $1,644 (11 months) ex for students on basis of grades; new students eligible. Twenty-six teaching assistantships; 20 hours' work; stipend, $1,320 (10 months) ex for students on basis of grades. Four nursery school assistantships and approximately seven research assistantships are available in the Institute of Child Welfare and the Institute for Personality Assessment and Research. Additional part-time positions available on contract research projects. VA program. USPHS stipends. Apply by February 1 to Dept. of Psych.

California, University of, Los Angeles 24, Calif. Apply for admission to the Graduate Division or Chairman, Dept. of Psych., before March 1. Tuition: resident, none; nr, $300. MAT required. One research assistantship; hours' work indefinite; stipend, $1,000. Nine teaching assistantships; 20 hours' work; stipend, $1,320 (ex if scholastic record sufficiently good); new students eligible for two of the nine. VA program. USPHS stipends. Apply by March 1 to Chairman, Dept. of Psych.

Carnegie Institute of Technology, Pittsburgh 13, Pa. Apply for admission to Dean, Division of Humanistic and Social Studies, before March 1. Tuition: $680. Five scholarships; no work; stipend, ex; new students eligible. Five research assistantships; 9 hours' work; stipend, $750 ex; new students eligible. One teaching assistantship; 6 hours' work; stipend, $1,000 ex. Industrial internships also available. Apply by March 1 to Dean, Division of Humanistic and Social Studies.

Catholic University of America, Washington 17, D. C. Apply for admission to Dean, Graduate School of Arts and Sciences, before May 1. Tuition: $600. One scholarship; no work; stipend, $900; new students eligible. Several university fellowships. Apply by March 1 to Secretary General. Three teaching assistantships; 20 hours' work; stipend, $1,500. Two internships in clinical psychology, two in remedial reading, and two in counseling also available. VA program. Apply by June 1 to Chairman, Dept. of Psych. and Psychiatry.

Chicago, University of, Chicago 37, Ill. Apply for admission to Director of Admissions four months before expected date of entrance. Tuition: $720.

Department of Psychology: GRE desirable if available; MAT ordinarily required. Eight to 10 scholarships; no work; stipend, ex; new students eligible. Four to 6 fellowships; no work; stipend, $500–1,000; new students eligible. Apply to Committee on Scholarships and Fellowships before February 15. Fifteen to 20 research assistantships; 15–20 hours' work; stipend, $250–350 per quarter; new students eligible. Apply by February 15 to Executive Secretary. Six to 8 teaching assistantships; 15–20 hours' work; stipend, $250 per quarter. VA program. USPHS stipends. Apply to Executive Secretary, Psych. Dept.

Committee on Human Development: Twelve scholarships; no work; stipend, $300–740; new students eligible. Two fellowships; no work; stipend, $500–1,000; new students eligible. Twelve research assistantships; number of hours' work varies; stipend, $500–3,000. Apply by February 1 to Committee on Fellowships and Scholarships.

Chico State College, Chico, Calif. Apply for admission to the Registrar before September 1. Tuition: $28. One resident counselor in men's dormitory; stipend, $400; new students eligible. Some grader work available. Apply by March 15 to Coordinator for Psych.

Cincinnati, University of, Cincinnati 21, Ohio. Apply for admission to Dr. Arthur G. Bills, Chairman, Dept. of Psych., before June 1. Tuition: resident, $300; nr, $400. Either GRE or MAT required. Few scholarships; no work; stipend, ex; new students seldom eligible. Apply to Dean, Graduate School. One laboratory assistantship available but applications not solicited from new students.

City College of the City of New York, New York 31, N. Y. Apply for admission to Professor Joseph E. Barmack, Secretary, Graduate Committee before April 1. Tuition: approximately $400. Six fellowships; 25 hours' work; stipend, $1,250; new students eligible. Apply by April 1 to Dr. John Gray Peatman, Chairman, Dept. of Psych.

Claremont College, Claremont, Calif. Apply for admission to Office of Admissions before March 1. Tuition: $225 per semester. MAT required. Five scholarships; no work; stipend, $750; new students eligible. Four fellowships; 5–15 hours' work; stipend, $300–800. Apply by March 1 to Dr. Evelyn Troup. Two research assistantships;

10 hours' work; stipend, $400. Apply by April 1 to Dr. F. Theodore Perkins, Chairman, Dept. of Psych.

Clark University, Worcester, Mass. Apply for admission to Psych. Dept. before February 15. Tuition: $500. GRE required. Thirteen scholarships or fellowships; no work; stipend, $500–900; new students eligible. Eight research assistantships; 15–20 hours' work; stipend, $600–$1,500 usually ex; new students eligible. Eight teaching assistantships; 15–20 hours' work; stipend, $600–1,500 usually ex. VA program. USPHS stipends. Apply by February 15 to Dept. of Psych.

Colgate University, Hamilton, N. Y. Apply for admission to Dr. Strang Lawson, Chairman, Graduate Studies, before March 1. Tuition: $700. GRE required. Eight preceptorships; half-time work; stipend, $1,400; new students not eligible. Apply by March 1 to Chairman of Graduate Studies.

Colorado College, Colorado Springs, Colo. Apply for admission to Dean H. E. Mathias, Director of Admission. Tuition: $525 a year. GRE required before admission to degree candidacy. One to two teaching assistantships; 12 hours' work; stipend, ex; new students eligible. Apply at time of enrollment, preferably earlier, to Dean H. E. Mathias, Director of Admission.

Colorado, University of, Boulder, Colo. Apply for admission to Chairman, Dept. of Psych. before April 1. Tuition: resident, $156; nr, $422. Number of scholarships varies; no work; stipend, ex; new students eligible. Number of fellowships varies; no work; stipend, $600–900 ex. Apply by April 1 to Dean, Graduate School. Number of research assistantships varies; number of hours of work varies; stipend varies; new students eligible. Five teaching assistantships; 15 hours' work; stipend, $675–810 ex nr tuition; new students eligible. VA program. USPHS stipends. Apply by March 1 to Chairman, Dept. of Psych.

Columbia University, New York 27, N. Y. Apply for admission to Office of University Admissions before June 1 or November 1. Tuition: $750.

Department of Psychology: GRE required. Two to three scholarships; no work; stipend, approximately $500; new students eligible. One or two fellowships; no work; stipend, $1,500; new students eligible. Apply by February 1 to Admissions Office. Four research assistantships; 20 hours' work; stipend, $500–600. Nine teaching assistantships; 20 hours' work; stipend, $1,200 ex; new students rarely eligible. Other positions available. Apply to Dept. of Psych.

Teachers College, Department of Guidance: Apply before March 15 for clinical psychology, before May 15 for other areas, to Admissions Office, Teachers College. Tuition: $800 a year. GRE required in clinical and counseling psychology. Eighteen scholarships; no work; stipend, $159–300; new students eligible. Fourteen fellowships; no work; stipend, $500–2,000; new students eligible. Apply before January 1 to Committee on Scholarships and Fellowship. Approximately fifteen teaching assistantships; 5–10 hours' work; $100–500 per semester; applications not solicited. VA program. USPHS stipends. Other positions available.

Teachers College, Division of Psychological Foundations. Apply for admission to Admissions Office, Teachers College before April 15 for summer session, before August 1 for winter session, and before January 1 for spring session. Tuition: $25 per point each semester plus university fee of $5 to $20 depending on points taken. GRE occasionally required. Several university scholarships and fellowships; no work; stipend, $150–2,500; new students eligible. Unspecified number of research assistantships; hours of work vary; stipend depends upon work done; if more than $1,000, ex for 8 points a semester at $25 per point; new students occasionally eligible. Apply to Committee on Scholarships and Fellowships. Other part-time positions available.

Connecticut College, New London, Conn. Apply for admission to Prof. M. H. Applezweig, Dept. of Psych. before April 15. Tuition: $830 a year. Two scholarships; 3 hours' work; stipend, ex; new students eligible. Two research assistantships; 20 hours' work; stipend, $1,200–1,600 ex; new students eligible. Two teaching assistantships; 15–20 hours' work; stipend, $1,200 ex; new students eligible. Apply before April 15 to Prof. M. H. Applezweig, Chairman, Dept. of Psych.

Connecticut, University of, Storrs, Conn. Apply for admission to Dean, Graduate School, before April 1. Tuition: $150. MAT required.

One fellowship; 18 hours' work; stipend, $1,500. Apply by April 1 to Head, Dept. of Psych. Six teaching assistantships; 18 hours' work; stipend, $1,305; new students eligible. A limited number of other part-time positions available. VA program. Apply by April 1 to Dean, Graduate School.

Cornell University, Ithaca, New York. Apply for admission to Dean, Graduate School before March 1.

Department of Psychology: GRE required. Tuition: $650 a year. Two fellowships; no work; stipend, $800 ex. Apply before March 1 to Dean of Graduate School. Nine research assistantships; 20 hours' work; stipend, $1,725; new students eligible. Eleven teaching assistantships; 20 hours' work; stipend, $1,725; new students eligible. Other positions available. Apply before March 1 to Chairman, Dept. of Psych.

School of Education: Tuition: $300–700 a year. Thirty scholarships; no work; stipend, $150–1,800 sometimes ex; new students eligible. Two fellowships; no work; stipend $400–600; new students eligible. Fourteen research assistantships; approximately 20 hours' work; stipend, $1,000–2,000 usually ex; new students usually not eligible. Apply by March 1 to Director, School of Educ.

Department of Child Development and Family Relationships: Tuition: $300 a year. Two fellowships; no work; stipend, $2,800; new students eligible; apply before March 1 to Dr. Mary Ford. Three research assistantships; 20 hours' work; stipend, $1,350–1,700 ex; new students eligible; apply before March 1 to Dr. Urie Bronfenbrenner. Five teaching assistantships; 20–25 hours' work; stipend, $1,650 ex; new students eligible; apply before March 1 to Dr. Mary Ford. Other positions available.

Dalhousie University, Halifax, N. S., Canada. Apply for admission to the Registrar before September 15. Tuition: $150 plus fees. Two teaching assistantships; 6 hours' work; stipend, $500; new students eligible. Summer internships available to students. Apply by March 15 to Chairman, Dept. of Psych.

Delaware, University of, Newark, Del. Apply for admission to Dean, Graduate School, before March 1. Tuition: approximately $200. GRE and MAT recommended. One research assistantship; 20 hours' work; stipend, $1,200; new students eligible. Two teaching assistantships; 20 hours' work; stipend, $1,200 ex; new students eligible. Other part-time positions may be available. Apply by March 1 to Dr. Halsey M. MacPhee, Chairman, Dept. of Psych.

De Paul University, Chicago, Ill. Apply for admission to Dean, Graduate School, thirty days before beginning of quarter. Tuition: $260. One teaching assistantship; 10–12 hours' work; stipend, ex. Apply to Chairman, Dept. of Psych.

DePauw University, Greencastle, Ind. Apply for admission to Executive Secretary, Graduate Council. Tuition: $225. MAT required. One assistantship; 12 hours' work; stipend, ex; new students eligible. Apply to Dr. Kenneth S. Wagoner, Chairman, Dept. of Psych.

Detroit, University of, Detroit 21, Mich. Apply for admission to Dean, Graduate School, before August or December 1. Tuition: approximately $300. GRE required. Six or seven fellowships; 18 hours' work; stipend, $1,050 ex half tuition; new students eligible. Apply by April 15 to Dr. A. A. Schneiders, Chairman, Dept. of Psych.

Duke University, Durham, N. C. Apply for admission to the Dean, Graduate School, before March 1. Tuition: $470. GRE and MAT required. Number of scholarships varies; 4 hours' work; stipend, $450–1,000; new students eligible. Number of fellowships varies; 6–8 hours' work; stipend, $1,000–1,700; new students eligible. Number of research assistantships varies; 8–15 hours' work; stipend, $400–1,800; new students eligible. Number of teaching assistantships varies; 10–15 hours' work; stipend, $800–1,800; new students eligible. Other part-time positions available. VA program. USPHS stipends. Apply by March 1, but preferably before February 15, to Dean, Graduate School.

Emory University, Emory University, Ga. Apply for admission to Dean, Graduate School, the quarter before admission. Tuition: $525. GRE required. Scholarships available (number unspecified); stipend, $525; new students eligible. Four fellowships; 6 hours' work; stipend, $1,225–2,650; new PhD students eligible. Apply by February 15 to Dean, Graduate School. Three research assistantships; 10–15 hours' work; stipend, $1,200–1,800; new students eligible. Two teaching assistantships; 10–15 hours' work; stipend, $1,500;

new PhD students eligible. Apply at any time to Chairman, Dept. of Psych.

Florida State University, Tallahassee, Fla. Apply for admission to Dean, Graduate School, before September 1. Tuition: resident, none; nr, $350. GRE required for MA; MAT required for PhD. Three fellowships; 8 hours' work; stipend, $450; new students eligible. Apply by July 15 to Dean, Graduate School. Fifteen research assistantships; 9 hours' work; stipend, $750; new students eligible. Three teaching assistantships; 18 hours' work; stipend, $2,000; new students eligible. Apply by July 15 to Chairman, Dept. of Psych.

Florida, University of, Gainesville, Fla. Apply for admission to the Registrar before August 15. Tuition: resident, none; nr, $500. GRE and MAT required. Thirteen assistantships; 15 hours' work; stipend, $700 ex; new students eligible. Apply by March 1 to Dr. E. D. Hinckley, Chairman, Dept. of Psych.

Fordham University, New York 58, N. Y. Apply for admission to the Registrar, Graduate School of Arts and Sciences, before July 1. Tuition: $415. GRE may be requested; MAT desirable but not required. Nine research assistantships; 15 hours' work; stipend, $800 ex; new students eligible. Apply before March to Dean, Graduate School.

Fort Hays Kansas State College, Hays, Kansas. Apply for admission to Dr. Ralph V. Coder, Chairman, Graduate Division before June 1. Tuition: resident, $52 per semester; nr, $89 per semester. Two scholarships; 16 hours' work; stipend, $432 for 9 months, $528 for 11 months; new students eligible. Apply by June 1 to Dr. H. B. Reed, Chairman, Dept. of Psych.

George Peabody College for Teachers, Nashville 5, Tenn. Apply for admission to the Registrar before July 1. Tuition: $300. GRE required. One or two scholarships; no work; stipend, approximately $500; new students eligible. Apply by March 15 to Chairman, Scholarship Committee. One fellowship; 10 hours' work; stipend, $1,500; new students eligible. Five teaching assistantships; 6–15 hours' work; stipend, $600–1,500; new students eligible. Apply by March 15 to Chairman, Division of Human Development and Guidance.

George Pepperdine College, Los Angeles 44, Calif. Apply for admission to Dr. Everett L. Shostrom, Chairman, Dept. of Psych., before August. Tuition: $400. GRE required. Three scholarships; no work; stipend, half ex; new students eligible. Two fellowships; 10 hours' work; stipend, ex; new students eligible. One teaching assistantship; 10 hours' work; stipend, $200 ex; new students eligible. Other part-time positions available. Apply by August to Dr. Everett L. Shostrom, Head, Dept. of Psych.

George Washington University, Washington 6, D. C. Apply for admission to Admissions Office, for MA; Chairman, Dept. of Psych., for PhD, by July 1. Tuition: $420. GRE required occasionally. Two assistantships for students working on MA; 8 hours' work; stipend, $300; new students eligible. Apply before registration to Chairman, Dept. of Psych. Two teaching assistantships; 8–12 hours' work; stipend, $900 ex; new students eligible. Dept. also recommends students for research-grant positions. Apply by April 1 to Chairman, Dept. of Psych.

Georgia, University of, Athens, Ga. Apply for admission to Dean, Graduate School, six weeks before quarter of admission. Tuition: resident, $180; nr, $480. GRE required. Number of fellowships varies; 6 hours' work; stipend, $1,000 occasionally ex nr fees; new students eligible. Number of research assistantships varies; hours' work vary; stipend, varies; new students eligible. Number of teaching assistantships varies; hours' work vary; stipend, $600–1,200 occasionally ex nr fees; new students eligible. Apply by March 1 to Dean, Graduate School, or Chairman, Dept. of Psych.

Harvard University, Cambridge 38, Mass. Apply for admission to Dean, Graduate School of Arts and Sciences, before May 1. Tuition: $600.

Department of Psychology: Either GRE or MAT required. Four scholarships; no work; stipend, $500–1,800; new students eligible. Four fellowships; no work; stipend, $500–1,800; new students eligible. Apply by February 8 to Dean, Graduate School. Ten research assistantships; 10–18 hours' work; stipend, $500–1,500; new students eligible. Five teaching assistantships; 12–15 hours' work; stipend, $800 per semester; new students not usually eligible. Apply by May 1 to Chairman, Dept. of Psych.

Department of Social Relations: GRE and MAT required. Scholarships and fellowships; no work; stipend, $300–1,000; new students eligible. Apply

by February 9 to Graduate School of Arts and Sciences. Research assistantships; ⅕ to ⅗ time required; stipend, $640–1,920; new students not ordinarily eligible. Apply by May 1 to Professor S. A. Stouffer, Laboratory of Social Relations. Teaching assistantships; ⅕ to ⅗ time required; stipend, $640–1,920; new students not ordinarily eligible. VA program. USPHS stipends. Apply by May 1 to Professor Talcott Parsons, Department of Social Relations.

Graduate School of Education: Apply for admission to Committee on Admissions, 4 Lawrence Hall, Kirkland Street, before July 1. Ten scholarships for School of Education; no work; stipend, $600–2,000; new students eligible. Apply by April 15 to Committee on Scholarships. Two to 5 research assistantships; 20 hours' work; stipend, $1,900; new students eligible. Apply by March 15 to Director, Laboratory of Human Development. Other part-time positions available.

Hawaii, University of, Honolulu 14, T. H. Apply for admission to Dean, Graduate School, two weeks before beginning of term. Tuition: $200 plus $20 registration fee. GRE and MAT required. Four teaching assistantships; 20 hours' work; stipend, $1,578 ex; new students eligible. Apply by April 15 to Dean of Faculties.

Houston, University of, Houston, Texas. Apply for admission to Dr. L. T. Callicutt, Chairman, Dept. of Psych. before March 1. Tuition: $400. GRE and MAT required first semester after admission. One scholarship; no work; stipend, $1,000; new students eligible. Five teaching assistantships; 6 hours' work; stipend, $900; new students eligible. Also, some assistantships in counseling and testing and in reading clinic. Apply by April 1 to Dr. L. T. Callicutt.

Howard University, Washington 1, D. C. Apply for admission to Dean, Graduate School, before September 1. Tuition: $213. GRE administered during first term. Five scholarships; no work; stipend, $246; new students eligible. Three fellowships; 5 hours' work; stipend, $663; new students eligible. Apply by April 15 to Dean, Graduate School.

Idaho, University of, Moscow, Idaho. Apply for admission to Dean, Graduate School. Tuition: resident, none; nr, $75 per semester. One teaching assistantship; 10 hours' work; stipend, $900 ex; new students eligible. Two assistantships in psychometry also available to psychology students. Apply by May 1 to Dr. Wm. H. Boyer, Chairman, Dept. of Psych.

Illinois Institute of Technology, Chicago 16, Ill. Apply for admission to Director of Admissions before August 15. Tuition: $325–$650 depending on number of hours. Number of teaching assistantships varies; hours' work vary; stipend, varies, plus half ex; new students eligible. It is possible to place superior graduate students whose major interest is industrial in part-time positions in business or industry in Chicago area. Apply by August 15 to Dr. P. S. Shurrager, Dept. of Psych. and Educ.

University of Illinois, Urbana, Ill. Apply for admission to Director of Admissions and Records before February 15. Tuition: resident, $80; nr, $300.

Department of Psychology: MAT required. Number of fellowships varies; no work; stipend, $900–1,100 ex; new students eligible. Apply by March 1 to Dean, Graduate College. Fifty half-time research assistantships; 20 hours' work; stipend, $1,200–1,300 ex for academic year, and $1,600–1,730 ex for a year; new students eligible. Sixteen half-time teaching assistantships; stipend, $1,200–1,300 ex for academic year, and $1,600–1,730 ex for a year; new students eligible. Internships at Psych. Clinic open to third-year graduate students. VA program (not open to first-year students). USPHS stipends. Apply by March 1 to Executive Secretary, Dept. of Psych.

College of Education: MAT required. Large number of fellowships; no work; stipend, $900–1,100 ex; new students eligible. Apply by February 1 to Dean, Graduate College. Large number of research assistantships; 20 hours' work; stipend, $1,500 ex; new students eligible. Large number of teaching assistantships; 20 hours' work; stipend, $1,500 ex; new students eligible. Other part-time positions available. Apply to Dr. F. H. Finch, 105 Gregory Hall.

Indiana University, Bloomington, Ind. Apply for admission to Graduate School, or Admissions Committee, Dept. of Psych., before March 15. Tuition: resident, $4 per credit hour per semester; nr, $11.50 per credit hour per semester. GRE and

MAT required. Fellowships (number unspecified); 10 hours' work; stipend, $150 and reduction of class fee. Research assistantships (number unspecified); 12–15 hours' work; stipend, $100–125. Teaching assistantships (number unspecified); 12–15 hours' work; stipend, $90–100. New students eligible for all awards if outstanding. Some part-time positions on research contracts. VA program. USPHS stipends. Apply by March 15 to Admissions Committee, Dept. of Psych.

Iowa State College, Ames, Iowa. Apply for admission to Dean Ralph M. Hixon. Tuition: $138. MAT required. Ten fellowships; 8–10 hours' work; stipend, $650–720 part ex; new students eligible. Four research or teaching assistantships; 15–20 hours' work; stipend, $990–1,140 part ex; new students not usually eligible. Other part-time positions available in Testing Bureau. Apply by April 1 to Chairman, Dept. of Psych.

Iowa, State University of, Iowa City, Iowa. Tuition: resident, $156; nr, $256.

Department of Psychology: Two scholarships; no work; stipend, ex; new students eligible. Four fellowships; no work; stipend, $270–2,400 ex; new students eligible only for first-year level fellowships. Seventeen research assistantships; 20 hours' work; stipend, $900–1,440 ex; new students eligible. Nine teaching assistantships; 20 hours' work; stipend, $900–1,080 ex; new students eligible. Two assistant psychologist positions at hospital available. One counseling assistantship available in Office of Student Affairs. USPHS stipends. VA program. Apply to Dr. Judson S. Brown, Acting Head, Dept. of Psych., before March 1.

Iowa Child Welfare Research Station: One scholarship; no work; stipend, $400 ex; new students eligible. Twelve research assistantships; 10–20 hours' work; stipend, $450–1,100 ex; new students eligible. Nine teaching assistantships; 20 hours' work; stipend, $880–1,100 ex; new students eligible. Also, some research associateships on research grants and other part-time work. Apply by February 15 to Dr. Boyd McCandless, Director, Child Welfare Research Station.

Johns Hopkins University, The, Baltimore 18, Md. Apply for admission to Director of Admissions before March 1. Tuition: $650. GRE and MAT desirable, but not required. Fifteen scholarships; no work; stipend, ex; new students eligible. Nine research assistantships; 10–20 hours' work; stipend, $600–1,500; new students eligible. Six teaching assistantships; 10–20 hours' work; stipend, $600–1,500; new students eligible. Scholarship is frequently coupled with assistantship. Apply by March 1 to Director of Admissions.

Kansas City, University of, Kansas City, Mo. Apply for admission to Director of Admissions before September 1, December 1, or May 1. Tuition: $12 per credit hour. MAT and reading comprehension test required. Two fellowships; 20 hours' work; stipend, $800 ex; new students eligible. Apply by August 1 to Dean of Liberal Arts.

Kansas State College, Manhattan, Kansas. Apply for admission to Dean Harold Howe before August 1. Tuition: resident, $140; nr, $280. One teaching assistantship; 22 hours' work; stipend, $1,350; new students eligible. Eight counseling assistantships; 22 hours' work; stipend, $1,350; new students eligible. Apply by April 1, Dean, Graduate School.

Kansas State Teachers College, Pittsburg, Kansas. Apply for admission to J. U. Massey, Director of Admissions and Registrar, before date of enrollment. Tuition: resident, $120; nr, $204. MAT required. Two scholarships; hours' work not specified; stipend, $450; new students eligible. Two fellowships; 10 hours' work; stipend, $500; new students eligible. Three or four student assistantships also available. Apply by June 1 to Chairman, Dept. of Psych.

Kansas, University of, Lawrence, Kansas. Apply for admission to Committee on Graduate Admissions before August 1. Tuition: resident, $120 nonclinical, $180 clinical; nr, $260 nonclinical, $400 clinical. Indefinite number of scholarships; no work; stipend, $400 ex; new students eligible. Indefinite number of fellowships; no work; stipend, $600–700 ex; new students with MA eligible. Apply by March 1 to Graduate School. Uncertain number of research assistantships; 20 hours' work; stipend, $1,200–1,400; new students eligible. Two teaching assistantships; 20 hours' work; stipend, $1,200–1,600; new students eligible. Clinical internships and a few positions also available. VA program. USPHS stipends. Apply by August 1 to Dept. of Psych.

Kent State University, Kent, Ohio. Apply for admission to Dr. Raymond Clark, Dean, Graduate School. Tuition: resident, $153.25; nr, $303.25. MAT not required, but recommended. Three research assistantships; 18 hours' work; stipend, $650 ex first year, $750 ex second year; new students eligible. Part-time hourly work and clinical internships for advanced students also available. Apply by May 15 to Dr. Raleigh M. Drake, Chairman, Dept. of Psych. One assistantship available in the Special Education Department for the school psychologist or guidance programs; half-time work; stipend, $650 for first year, $750 for second year. Apply to Dr. Edna R. Oswalt, Head, Dept. of Spec. Educ.

Kentucky, University of, Lexington, Ky. Apply for admission to the Registrar by March 1. Tuition: resident, $130; nr. $250. GRE required. No definite number of scholarships; no work; stipend, $600 ex nr fees; new students eligible. No definite number of fellowships; no work; stipend, $750 ex nr fees; new students eligible. Apply by March 25 to Dean of the Graduate School. Seven teaching assistantships; 12–15 hours' work; stipend, $900 ex nr fees; new students eligible. Local part-time positions available for advanced students in clinical psychology. VA program. Apply by March 1 to Dept. of Psych.

Lehigh University, Bethlehem, Pa. Apply for admission to Office of Admissions before May 15 for fall term, or December 15 for midyear term. Tuition: $22 per credit hour. GRE required occasionally. One scholarship; no work; stipend, ex; new students eligible. Four research assistantships; 20 hours' work; stipend, $1,200 ex; new students eligible. One teaching assistantship; 20 hours' work; stipend, $1,200 ex; new students eligible. Position as freshman dormitory counselor, half-time at $1,200, also available. Apply by March 30 or December 1 to Office of Admissions.

Long Beach State College, Long Beach, Calif. Apply for admission to Admissions Office before August 1. Tuition: $41. GRE required for candidacy for MA. Eight scholarships; no work; stipend, $100; new students eligible. One fellowship; no work; stipend, $2,400; new students eligible. Apply by March 1 to Dr. Louis J. Swanson, Assistant Dean of Students.

Long Island University, Brooklyn 1, N. Y. Apply for admission to Office of Admissions, Graduate School, before May 1 for summer registration; June 1, for fall semester; November 1 for spring semester. Tuition: $450 plus fees. GRE required. Two assistantships; 20 hours' work; stipend, $750 ex; new students eligible. Apply before above dates to Dr. Jacob I. Hartstein, Chairman, Dept. of Psych.

Louisiana State University, Baton Rouge, La. Apply for admission to Chairman of Admissions, Dept. of Psych., before March 15. Tuition: resident, $60; nr, $120. GRE desirable; MAT required. Two clinical externs; 20 hours' work; stipend, $1,200 ex; new students only. Five research assistantships; 10 hours' work; stipend, $500 ex; new students eligible. Two clinical interns; 20 hours' work; stipend, $1,500 ex; new students eligible. Other positions available for advanced students in department on contract research projects. Apply by March 15 to Dr. G. B. Bell, Dept. of Psych.

Louisville, University of, Louisville, Ky. Apply for admission to Dr. Guy Stevenson, Dean, Graduate School. Tuition: resident, $448; nr, $548. GRE required. One scholarship; no work; stipend, $448; new students eligible. Eight research assistantships; hours of work not specified; stipend, $600–1,800; new students eligible. Two teaching assistantships; hours of work not specified; stipend, $300–500; new students eligible. Other part-time positions available. Apply at the start of school in the fall to Chairman, Dept. of Psych. and Social Anthropology.

Loyola University, Chicago 11, Ill. Apply for admission to Dean, Graduate School, before June 30. Tuition: $35 per course, $40 per laboratory course. GRE and MAT occasionally required. Three fellowships; 20 hours' work; stipend, $900 ex. One research assistantship; 20 hours' work; stipend, $900 ex. Four teaching fellowships; 13 hours' work; stipend, $1,000 and up ex; new students occasionally eligible. Positions as supervisor for clinical students in agencies also available. Apply by April 1 to Chairman, Dept. of Psych.

MacMurray College, Jacksonville, Ill. Apply for admission to Dean Wendell S. Dysinger before June 1. Tuition: $1,150 for board, room, and tui-

tion for two semesters. GRE and MAT recommended. Five scholarships; no work; stipend, $200–600; new students eligible. Three research assistantships; 12–15 hours' work; stipend, $830; new students eligible. Other part-time positions available. Apply by May 1 to Dean Wendell S. Dysinger.

McGill University, Montreal 2, P. Q., Canada. Apply for admission to Dean D. L. Thomson, Graduate Faculty, before April 1. Tuition: $250. MAT required. Eight to 12 research assistantships; 12-hour limit if work does not contribute to thesis; stipend, $1,000–1,500; new students eligible. Four to 7 teaching assistantships; 10-hour limit if work does not contribute to thesis; stipend, $400–700 (7–8 months); new students eligible. Apply by April 1 to Dr. D. O. Hebb, Chairman, Dept. of Psych.

Maine, University of, Orono, Maine. Apply for admission to Dr. Edward N. Brush, Dean, Graduate Study, before June 1. Tuition: resident, $305; nr, $465. GRE required. Two university scholarships; no work; stipend, ex; new students eligible. Apply by April 1 to Dean of Graduate Study. One teaching assistantship; 15 hours' work; stipend, $1,200; new students eligible. Apply by July 1 to Chairman, Dept. of Psych.

Manitoba, University of, Winnipeg, Manitoba, Canada. Apply for admission to Dean, School of Graduate Studies before September 15. Tuition: $145. One research assistantship; 6–8 hours' work; stipend, $750; new students eligible. Apply by May 1 to Chairman, Dept. of Psych.

Maryland, University of, College Park, Md. Apply for admission to Dr. T. G. Andrews, Chairman, Dept. of Psych., before March 1. Tuition: $200. GRE and MAT required. Eleven research assistantships; 10–20 hours' work; stipend, $563, or $1,125 ex; new students eligible. Other teaching, counseling, and contract research part-time positions available. Apply by March 1 to Dr. T. G. Andrews, Chairman, Dept. of Psych.

Massachusetts, University of, Amherst, Mass. Apply for admission to Dean, Graduate School, before June 1. Tuition: resident, $100; nr, $220. MAT required. Three fellowships; 20 hours' work; stipend, $800 ex; new students eligible. Three research assistantships; 20 hours' work; stipend, $1,400; new students eligible. Two or three teaching assistantships; 10 hours' work; stipend, $300; new students eligible. Apply by June 1 to Dr. Claude C. Neet, Chairman, Dept. of Psych.

Miami University, Oxford, Ohio. Apply for admission to Dean, Graduate School or Chairman, Dept. of Psych., before March 1. Tuition: $105. One fellowship; no work; stipend, ex; new students eligible. Other part-time professional positions available at Wright Field Military Aviation Project. Apply to W. E. Smith, Dean, Graduate School.

Miami, University of, Coral Gables, Fla. Apply for admission to Dr. Granville C. Fisher, Chairman, Dept. of Psych., before August 15. Tuition: $450 plus fees. GRE required. Three research assistantships; 12 hours' work; stipend, $750 ex; new students eligible. Two teaching assistantships; 15 hours' work; stipend, $1,500 (9 months); new students with MA or MS eligible. Apply June 1 and June 15, respectively, to Dr. Granville C. Fisher, Chairman, Dept. of Psych.

Michigan State College, East Lansing, Mich. Apply for admission to Dean, School of Graduate Studies before April 1. Tuition: resident, $165; nr, $390. MAT required. Number of scholarships vary; no work; stipend, ex; new students eligible. Number of fellowships vary; no work; stipend, ex; new students eligible. Apply by April 1 to School of Graduate Studies. Number of research assistantships varies; 10 hours' work for quarter time; 20 hours' work for half time; stipend, $1,200–2,900 (11 months); new students eligible. Twelve teaching assistantships; 20 hours' work for half-time; stipend, $1,400 ex (9 months); new students eligible. Part-time employment in schools and clinics available. Additional tuition scholarships for needy students; special scholarships for foreign students. VA program. Apply by April 1 to Dept. of Psych.

Michigan, University of, Ann Arbor, Mich. Apply for admission to Dr. Daniel Katz, Chairman, Committee on Graduate Studies before March 1. Tuition: resident, $180; nr, $430. MAT required. Two scholarships; no work; stipend, ex; new students eligible. Two fellowships; no work; stipend, $500–1,500; new students eligible. Apply by March 1 to Horace H. Rackham School of Grad-

uate Studies. Twenty research assistantships; 10–20 hours' work; stipend, $800–1,600; new students eligible. Twenty teaching assistantships; 10–20 hours' work; stipend, $800–1,500 partial ex; new students eligible. Dept. recommends for appointments in Survey Research Center, Research Center for Group Dynamics, Psychological Clinic, Student Counseling Division, University Mental Hygiene Division of Health Service, Veterans hospitals and clinics, and various experimental research projects. VA program. USPHS stipends. Apply by March 1 to Dept. of Psych.

Mills College, Oakland 13, Calif. Apply for admission to Office of Record before time of registration. Tuition: $235. One fellowship; 12–18 hours' work; stipend, ex plus residence; new students eligible. Apply by March 1 to The Secretary, Committee on Fellowship Awards.

Minnesota, University of, Minneapolis 14, Minn. Apply for admission to Dean, Graduate School, 30 days before quarter of entrance. Tuition: resident, $170.55; nr, $356.55. MAT required. Thirteen teaching assistantships; 10–20 hours' work; stipend, $641–1,283; new students eligible. VA program. USPHS stipends. Apply to Dr. Kenneth MacCorquodale, Dept. of Psych. Four to 6 counseling instructorships; 15–20 hours' work; stipend, $1,155–1,732; new students occasionally eligible. Eight to 10 counseling assistantships; 20 hours' work; stipend, $1,285; new students eligible. Apply by March 1 to Assistant Dean Roger B. Page.

Mississippi, University of, University, Miss. Apply for admission to Dean, Graduate School before September 1. Tuition: resident, $85; nr, $200. One fellowship; no work; stipend, $600 ex nr fee; new students eligible. Apply by March 15 to Dean, Graduate School. One research assistantship; 12 hours' work; stipend, $750 ex nr fee; new students eligible. Apply by March 15 to Chairman, Dept. of Psych. Two teaching assistantships; 12 hours' work; stipend, $600 ex nr fee; new students eligible. Apply by April 15 to Chairman, Dept. of Psych.

Missouri, University of, Columbia, Mo. Apply for admission to Dr. Fred McKinney, Chairman, Dept. of Psych., before April 1. Tuition: resident, none; nr, $150–400. MAT required. Twelve scholarships and fellowships; no work; stipend, $600–700 ex; new students eligible. Apply by March 1 to Dean, Graduate School. Nine teaching assistantships; 20 hours' work; stipend, $1,000 ex; new students eligible. Apply by April 1 to Dr. Fred McKinney, Chairman, Dept. of Psych. Stipends for students in education specializing in educational psychology and counseling and guidance also available. Apply to School of Education.

Montana State University, Missoula, Mont. Apply for admission to Dean, Graduate School before July 1. Tuition: resident, $107; nr, $157. GRE recommended. Candidates for MA in clinical may receive 9 months' internship at Montana State Hospital—subsistence furnished.

Montréal, Université de, Montréal 2, P. Q., Canada. Apply for admission to Le secrétaire-adjoint à l'Immatriculation before August 1. Tuition: resident, $300; nr, $360. Two scholarships; no work; stipend, $1,000–3,000; new students eligible. One fellowship; no work; stipend, $3,000; new students eligible. Apply in May. Three research assistantships; 15 hours' work; stipend, $1,000–1,200; new students not eligible. Two laboratory assistantships; 20 hours' work; stipend, $540; new students not eligible. One research assistantship in child development; stipend, up to $3,000. Apply to Rev. Father Noël Mailloux, Institut de Psychologie, C.P. 6128, Montréal 2, P. Q., Canada.

Nebraska, University of, Lincoln, Neb. Apply for admission to Dean, Graduate College before March 1. Tuition: resident, $160; nr, $360. GRE advisable, MAT required. Eight assistantships (both research and teaching); 12 hours' work; stipend, $750 ex; new students eligible. Two assistantships in counseling bureau also available. VA program. USPHS stipends. Apply by March 1 to Chairman, Dept. of Psych.

New Brunswick, University of, Fredericton, N. B., Canada. For admission apply to Dean F. J. Toole before May 1. Tuition: $215 a year. Two fellowships; 8 hours' work; stipend, $500–750 ex; new students eligible. Apply before March 1 to Dean F. J. Toole, School of Graduate Studies.

New Hampshire, University of, Durham, N. H. Apply for admission to Dean Herbert J. Moss before May 1. Tuition: resident, $250; nr,

$500. Twenty scholarships; stipend, ex. Teaching assistantships (number unspecified); 20 hours' work; stipend, $1,000 ex; new students eligible. Apply by April 1 to Dr. Herbert A. Carroll, Chairman, Dept. of Psych.

New Mexico Highlands University, Las Vegas, N. M. Apply for admission to Dr. Anna Y. Martin, Acting Chairman, Dept. of Psych., before August 1. Tuition: resident, $105; nr, $210 plus fees. GRE required. Five scholarships; no work; stipend, ex state tuition; new students eligible. Apply about August 1 to Dr. Anna Y. Martin, Acting Chairman, Dept. of Psych.

New Mexico, University of, Albuquerque, N. M. Apply for admission to Dean, Graduate School, before April 1. Tuition: resident, $100; nr, $200. GRE and MAT required. Six university fellowships; no work; stipend, $500 ex nr tuition; new students eligible. Four teaching assistantships; 15 hours' work; stipend, $900 ex nr tuition; new students eligible. Apply by April 1 to Dean, Graduate School.

New School for Social Research, Psychology Division of Dept. of Philosophy and Psychology, New York 11, N. Y. Apply for admission to Psychology Division. Tuition: $18 per point. Scholarships and fellowships are for entire school; new students eligible; apply by April 30 to Graduate Faculty Registrar. One research assistantship; 40 hours' work; stipend, $2,000 ex. One or two teaching assistantships; 20 hours' work; stipend, $2,500–3,000 ex. Apply to Dr. Mary Henle, Spokesman, Psychology Division.

New York University, New York 3, N. Y.

Department of Psychology: Apply for admission to Dean, Graduate School of Arts and Science, before March 15. Tuition: approximately $600. GRE and MAT required. Four research assistantships; 20 hours' work; stipend, $1,000 ex three courses; new students eligible. Fourteen teaching assistantships; 20 hours' work; stipend, $800–1,000 ex three courses; new students eligible. Other part-time positions available. VA program. Apply by March 1 to Dr. Stuart W. Cook, Chairman, Dept. of Psych.

Department of Educational Psychology: Apply for admission to Admissions, School of Education. Tuition: $22 per point. Four teaching fellowships; 6 hours' work; stipend, $1,200–1,800 ex; new students eligible. Part-time positions also available as assistant in statistics laboratory, assistant in reading clinic, and assistant in charge of tests and laboratory supplies. Apply by March 1 to Director of Admissions, School of Education.

North Carolina State College, Raleigh, N. C. Apply for admission to Dean D. B. Anderson, Graduate School before May 1. Tuition: resident, $231; nr, $321. GRE and MAT required. Ten research assistantships; 15 hours' work; stipend, $1,200; new students eligible. One teaching assistantship; 3 hours' work; stipend, $1,200; new students eligible. Part-time positions available with Bureau of Industrial Psychology Services. Apply by May 1 to Dr. D. J. Moffie, Chairman, Dept. of Psych.

North Carolina, University of, Chapel Hill, N. C. Apply for admission to Dean, Graduate School, before March 1. Tuition: resident, $150; nr, $360. GRE and MAT required. University scholarships available; no work; stipend, $900; new students eligible. Fellowships available; hours' work vary; stipend varies; new students eligible. Apply by March 1 to Graduate School. Five to seven teaching assistantships; hours' work unspecified; stipend, $684–900 ex; new students eligible. Apply by March 1 to Graduate School. Six to ten research assistantships; 15–30 hours' work; stipend, $900–2,120; new students eligible. In many awards students are paid flat rate plus amount to cover tuition. Part-time professional positions may be available in Psychometric Laboratory. VA program. USPHS stipends. Apply to Chairman, Dept. of Psych. Assistantships in Institute for Research in Social Science made on department recommendation; address inquiries to Institute for Research in Social Science.

Northwestern University, Evanston, Ill. Apply for admission to the Graduate School before April 1. Tuition: $500. MAT required. One to three scholarships; no work; stipend varies, ex; new students eligible. One fellowship; no work; stipend, $1,000 ex. Nine teaching assistantships; 15 hours' work; stipend, $1,050 ex; new students eligible. Other part-time positions are available. VA program. USPHS stipends. Apply March 1 to The Graduate School.

Oberlin College, Oberlin, Ohio. Apply for admission to Dean Blair Stewart. Tuition: $500 plus fees. One scholarship; no work; stipend, ex; new students eligible. Other part-time positions available. Apply by March 15 to Dean Blair Stewart.

Ohio State University, Columbus 10, Ohio. Apply for admission to Entrance Board before February 28. Tuition: resident, $35; nr, $110. One or two scholarships; no work; stipend, $600–800 ex; new students eligible. Sometimes one fellowship; no work; stipend, $1,000 ex; new students seldom eligible. Apply by February 15 to Graduate School. Ten research assistantships; 15 hours' and up work; stipend, $900 up ex; new students occasionally eligible. Apply by February 28 to staff member in proposed field of specialization. Fifteen teaching assistantships; 10 hours' work plus preparation and conferences; stipend, $1,200 ex; new students eligible. VA program. USPHS stipends. Apply by February 28 to Entrance Board.

Ohio Wesleyan University, Delaware, Ohio. Apply for admission to Miss Audrey M. Parker before May 1. Tuition: $250 per semester. GRE requested but not required. Six fellowships; 21 hours' work; stipend, ex and room and board; new students eligible. Apply May 1 to Miss Audrey M. Parker.

Oklahoma Agricultural and Mechanical College, Stillwater, Okla. Apply for admission to Head, Dept. of Psych. before September 1. Tuition: $66. Two teaching assistantships; 12 hours' work; stipend, $900–1,200; new students eligible. Apply by June 1 to Head, Dept. of Psych.

Oklahoma, University of, Norman, Okla. Apply for admission to Dean of Admissions and Registrar before either March 15 or July 15. Tuition: resident, $132; nr, $372. GRE and MAT recommended. Two or three scholarships; 4 hours' work; stipend, $150–200 ex nr fee and ex half resident fee; new students eligible. One or two fellowships; no work; stipend, $300–600 ex nr fee and ex half resident fee; new students eligible. Four research assistantships; 20–22 hours' work; stipend, $900 ex nr fee and ex half resident fee; new students eligible. Eight to ten teaching and graduate assistantships; 20–22 hours' work; stipend, $900 (MS candidates)–$1,200 (PhD candidates) ex nr fee and ex half resident fee; new students eligible. Other part-time positions available. Apply by March 15 to Dean of Graduate College.

Omaha, Municipal University of, Omaha 1, Neb. Apply for admission to E. M. Hosman, Chairman, Graduate Studies before August 15. Tuition: resident: $8 per credit hour; nr, $12 per credit hour. One teaching assistantship; hours' work and stipend unspecified. Apply by May 1 to Chairman, Dept. of Psych.

Oregon, University of, Eugene, Oregon. Apply for admission to Registrar's Office before September 15. Tuition: $150. Occasional scholarships; no work; stipend, $500 part ex; new students eligible. Seven graduate assistantships; 15–16 hours' work; stipend, $800–1,000 part ex; new students eligible. One or two research assistantships; 15–16 hours' work; stipend, $800–1,000 part ex; new students eligible. One teaching fellowship; 15–16 hours' work; stipend, $1,200 part ex; new students eligible. Apply by March 15 to Graduate School.

Ottawa, University of, Ottawa, Ont., Canada. Apply for admission to the Registrar before June 1. Tuition: $250. Two research assistantships; 15 hours' work; stipend, $1,000 (10 months). Knowledge of French is necessary for assistantships; not for studies. Apply by March 1 to Chairman, Dept. of Psych.

Pennsylvania State College, State College, Pa. Apply for admission to Dean of Admissions before March 1. Tuition: resident, $205; nr, $425. MAT required. Six scholarships; 5 hours' work; stipend, ex; new students eligible. Four fellowships; no work; stipend, $1,000–2,400 ex. Four research assistantships; 10–20 hours' work; stipend, $560–1,120 ex; new students eligible. Ten teaching assistantships; 10–20 hours' work; stipend, $560–1,120 ex; new students eligible. VA program. USPHS stipends. Apply by March 1, Dr. C. R. Carpenter, Chairman, Dept. of Psych. Internships and assistantships available in Psychological Clinic after one semester. Instructional Film Research Program offers fellowships to advanced students of other colleges who wish to use its facilities for their doctoral research.

Pennsylvania, University of, Philadelphia 4, Pa. Apply for admission to Dean, Graduate

School before February 18. Tuition: $30 per semester credit, or $700 for two terms. GRE recommended. Two to four scholarships; no work; stipend, 0–$400 ex; new students eligible. One to two fellowships; no work; stipend, $200–1,000 ex; new students eligible. Apply by February 18 to Dean of the Graduate School. Two to four research assistantships; 20 hours' work; stipend, $1,000–1,100 ex; new students eligible. Fifteen to 18 laboratory assistantships; 20 hours' work; stipend, $1,000–1,100 ex; new students eligible. Apply by February 18 to Chairman, Dept. of Psych. VA program. USPHS stipends. Occasionally other part-time positions available.

Pittsburgh, University of, Pittsburgh 13, Pa. Apply for admission to Chairman, Admissions Committee before March 1. Tuition: $12.50 per semester credit hour. GRE and MAT required. Two scholarships; no work; stipend, $1,000 ex; new students eligible. Two fellowships; no work; stipend, $1,000; new students eligible. Eleven research assistantships; 20 hours' work; stipend, $1,530–2,000 occasionally ex; new students eligible. Ten teaching assistantships; 6 class hours' work; stipend, $1,200 ex; new students at MA or above level eligible. USPHS stipends. VA program. Apply by March 1 to Dr. R. A. Patton, Chairman, Dept. of Psych.

Portland, University of, Portland 3, Oregon. Apply for admission to Rev. Joseph S. McGrath, C.S.C., Dean, Graduate School, before August 1. Tuition: $425. GRE required. Three fellowships; 10–12 hours' work; stipend, $720 ex; new students eligible. Two psychometric positions and one counseling position available to advanced graduate students. Apply by August 1 to Rev. Joseph S. McGrath, C.S.C.

Princeton University, Princeton, N. J. Apply for admission to Dean H. S. Taylor, Office of the Graduate School by March 1. Tuition: $600. GRE required. Three scholarships; no work; stipend, $600; new students eligible. Three fellowships; no work; stipend, $800–1,600; new students eligible. Five teaching assistantships; half-time work; stipend, $1,200–1,700; new students eligible. Part-time research assistantships also available. Apply by March 1 to Dean H. S. Taylor, Office of the Graduate School. The Educational Testing Service offers $2,375 fellowships, which include part-time work. Applications should be made to Dr. Harold Gulliksen, 20 Nassau Street, Educational Testing Service, Princeton, N. J.

Purdue University, Lafayette, Ind. Apply for admission to Dean, Graduate School before March 1. Tuition: resident, $130; nr, $330. MAT required for clinical students only. Four special fellowships; no work; stipend, $500 ex except for $60 (10 months); new students only. Six fellowships; no work; stipend, $1,200 ex except for $60 (12 months). Eight research assistantships; 20 hours' work; stipend, $1,200 ex except for $60 (12 months); new students eligible. Sixteen teaching assistantships; 20 hours' work; stipend, $1,500 ex except for $60 (10 months); new students eligible. Other part-time positions available. VA program. USPHS stipends. Apply by March 1 to Dean, Graduate School.

Queen's University, Kingston, Ont., Canada. Apply for admission to the Registrar before September 1. Tuition: $200 per year. GRE and MAT required. Fellowships for graduate work mainly in clinical psychology may be available. Apply to Dr. J. M. Blackburn for possible stipends of all kinds.

Radcliffe College, Cambridge, Mass. Apply for admission to Dean, Graduate School before May 1. Tuition: $600. Either GRE or MAT required. One scholarship; no work; stipend, $500–1,500; new students eligible. Apply by February 8 to Dean, Graduate School at Radcliffe College. (For fellowships and research and teaching assistantships, see announcement under Harvard University.)

Richmond Professional Institute, Richmond, Va. Apply for admission to Dr. V. J. Bieliauskas, Director, School of Clinical and Applied Psychology. Tuition: resident, $200; nr, $360. GRE and MAT required at discretion of Admissions Committee. Three scholarships; no work; stipend, two at $100, one at $500; new students eligible. One teaching fellowship; 10 hours' work; stipend, $800; new students eligible. Four counselorships; 8 hours' work; stipend, one at $250 plus maintenance, three at $400 plus maintenance; new students eligible. Apply by June 1 to Dr. V. J. Bieliauskas, Director, School of Clinical and Applied Psychology.

Richmond, University of, Richmond, Va. Apply for admission to Dean, Graduate School. Tuition: $300. One research assistantship; 10 hours' work; stipend, $700; new students eligible. Apply by April 1 to Chairman, Dept. of Psych.

Rochester, University of, Rochester 7, N. Y. Apply for admission to Dean, Graduate School. Tuition: $23 per credit hour. GRE required. Scholarships limited by number of students accepted; 0–5 hours' work; stipend, ex; new students eligible. Three fellowships; no work; stipend, $1,200–2,400; new students eligible. Thirteen research assistantships; 15–20 hours' work; stipend, $1,100–1,600 ex if support is needed; new students eligible. Eight teaching assistantships; 15 hours' work; stipend, $1,100–1,400 ex if support is needed; new students eligible. VA program. USPHS stipends. Other part-time positions available. Apply by March 15 to Dean, Graduate School.

Roosevelt College, Chicago, Ill. Apply for admission to Mr. Howard Winebrenner, Director of Admissions. Tuition: approximately $400 for two semesters. GRE not required but desirable. MAT not required but some ability test is recommended. Two scholarships; no work; stipend, $400; new students eligible. Two research assistantships; 10 hours' work; stipend based on hourly rate; new students eligible. Apply by first of month in which semester opens to Dr. George W. Hartmann, Chairman, Dept. of Psych.

Sacramento State College, Sacramento, Calif. Apply for admission to Registrar before September 15. Tuition: $43. Student assistantships available; stipend, 90¢ an hour.

St. Louis University, St. Louis, Mo. Apply for admission to Dean, Graduate School before April 1. Tuition: $17.50 per semester. MAT recommended. Two fellowships; no work; stipend, $1,000; new students eligible. Apply by April 1 to Dean, Graduate School. One research assistantship; 20 hours' work; stipend, $1,100; new students eligible. Apply by April 1 to Director, Dept. of Psych.

San Diego State College, San Diego, Calif. Apply for admission to Dr. Richard Madden, Chairman Graduate Council before August 15. Tuition: $28. MAT required. Possibly 2 to 6 student research assistantships on various task contracts will be available. The Naval Electronics Laboratory also employs about 25 students.

San Francisco State College, San Francisco 2, Calif. Apply for admission to Dr. Louis Levine, Chairman, Dept. of Psych. before August 19. Tuition: $20.50 for one semester. GRE required. Several part-time internships available.

Sarah Lawrence College, Bronxville 8, N. Y. Apply for admission to Committee on Graduate Studies. Tuition: $500. A limited number of partial and full tuition scholarships is offered.

Saskatchewan, University of, Saskatoon, Saskatchewan, Canada. Apply for admission to the Registrar before September 19. Tuition: $175. Several university scholarships; apply to Registrar. One research assistantship (graduate student reader); 8 hours' work; stipend, $250; new students eligible. Apply by September 19 to Chairman, Dept. of Psych.

Smith College, Northampton, Mass. Apply for admission to Committee on Graduate Study before September 1. Tuition: $550. GRE recommended, but not always required. One or two scholarships; no work; stipend, $550 ex or part ex; new students eligible. One fellowship; no work; stipend, $300–1,000 ex; new students eligible. Apply March 1 to Committee on Graduate Study. One or two teaching assistantships; 20 hours' work; stipend, $1,000 ex; new students eligible. Apply by April 1 to Chairman, Dept. of Psych.

South Carolina, University of, Columbia, S. C. Apply for admission to Dr. W. H. Callcott, Dean of the Graduate School, by August 1. Tuition: resident, $40; nr, $125. GRE required, but may be taken after admission. Adjustable number of fellowships; no work; stipend, $500–1,000; new students eligible. Apply by March 1 to Dean W. H. Callcott, Graduate School. Two to three teaching assistantships; 3 hours' per section taught; stipend, $200 per section per semester ($400 maximum); new students eligible. Other part-time positions available in Student Personnel Bureau. Practicum is available for clinical students in Mental Hygiene Clinic and State Hospital. Apply by May 15 to Dr. M. K. Walsh, Chairman, Dept. Psych. and Philosophy.

South Dakota, University of, Vermillion, S. Dak. For admission apply to Dean H. S. Schell before August 1. Tuition: resident, $84; nr, $126. GRE required. One fellowship; no work; stipend, $300; new students eligible; apply by August 1. One research assistantship; approximately 20 hours' work; stipend, $1,200–1,800 ex nr fee; new students eligible; apply by April 15. Two teaching assistantships; 12 hours' work; stipend, $1,000 ex nr fee; new students eligible; apply May 1. Clinical internships and nursery school teacher position also available. Address applications to Dr. H. V. Cobb, Chairman, Dept. of Psych.

Southern California, University of, Los Angeles, Calif. Apply for admission to Dr. Constance Lovell, Dept. of Psych., before March 1. Tuition: $20 a unit ($500–600 a year). MAT required. Graduate Survey Examination must be taken during first year. Number of scholarships varies; no work; stipend, ex; new students eligible. Apply by March 1 to Committee on Student Aid. Three fellowships; no work; stipend, $1,600–2,400. Eight teaching assistantships; 9–20 hours' work; stipend, $570–1,520. VA program. USPHS stipends. Apply by March 1 to Dr. Constance Lovell, Dept. of Psych.

Southern Methodist University, Dallas 5, Texas. Apply for admission to Dr. Hemphill Hosford, Acting Dean of the Graduate School. Tuition: $500. GRE occasionally required. University scholarships; 3 hours' work; stipend, ex; new students eligible. Apply to Dean of the Graduate School. One fellowship in personnel and industrial psychology; no work; stipend $1,500; new students eligible. Apply by May 1 to Chairman, Dept. of Psych. Three assistantships; 5 hours' work; stipend, $180; new students eligible. Apply at any time to Dean of the Graduate Office.

Springfield College, Springfield, Mass. Apply for admission to Director of Graduate Studies before June 15. Tuition: $15 per credit hour. MAT required. Five graduate assistantships; 6–12 hours' work; stipend, $200–400; new students eligible. Other part-time positions available. Apply by May 15 to Director of Graduate Studies.

Stanford University, California. Apply for admission to Dr. Paul R. Farnsworth before August 15. Tuition: $660. University scholarships and fellowships available; new students eligible. Apply by February 15 to Graduate Division. Twelve research assistantships; 10 hours' work; stipend, $1,500; new students usually not eligible. Ten teaching assistantships; 10 hours' work; stipend, $1,500; new students usually not eligible. USPHS stipends. VA program. Apply by April 1 to Dept. of Psych.

Swarthmore College, Swarthmore, Pa. Apply for admission to Dr. Hans Wallach, Acting Chairman, Dept. of Psych., before March 15. Tuition: $600 plus $50 general fee. Two research assistantships; 20 hours' work; stipend, $800 ex; new students eligible. Apply by March 15 to Dr. Hans Wallach, Acting Chairman, Dept. of Psych.

Syracuse University, Syracuse, N. Y. Apply for admission to Dean John Harriman, Graduate School. Tuition: $650 or $20 per credit hour. MAT recommended. Three scholarships; 10 hours' work; stipend, $600 for 10 months; new students eligible. Apply by March 1 to Dept. of Psych. Usually 1 to 3 fellowships; no work; stipend, $1,200; new students not eligible. Apply by March 1 to Graduate School. Six research assistantships; 20 hours' work; stipend, $1,500 for 12 months; new students eligible. Five teaching assistantships; 20 hours' work; stipend, $1,200 for 10 months, ex for two of them; new students eligible. Other positions available on contract research projects. Apply by March 1 to Dept. of Psych.

Tennessee, University of, Knoxville, Tenn. Apply for admission to Dean, Graduate School before March 15. MAT required. Tuition: resident, $150 a year; nr, $375 a year. Four research assistantships; 10 hours' work; stipend, $800 ex ($600 ex for academic year); new students eligible. Six teaching assistantships; 10 hours' work; stipend, $600–800 ex; new students eligible. VA program. Other positions available. Apply before March 15, Dean, Graduate School.

Temple University, Philadelphia, Pa. Apply for admission to Dean William T. Caldwell, College of Liberal Arts for Master's degree, to Dr. C. H. Smeltzer, Chairman, Dept. of Psych. for PhD degree, before April 1. GRE required. Tuition: $15 per semester hour. Twelve research assistantships; hours of work vary; stipend, $900–1,000 ex; new students eligible. Six teaching assistantships; hours

of work vary; stipend, $650 per teaching hour; new students eligible. Other positions available. Apply before April 1 to Chairman, Dept. of Psych.

Texas Christian University, Fort Worth, Texas. Apply for admission to Dr. A. T. DeGroot, Dean of Graduate School, week before registration. GRE required. Tuition: $360 a year. No scholarships or fellowships specifically for psychology graduate students, but some aids may be made available.

Texas State College, North, Denton, Texas. Apply for admission to Dr. Jack Johnson before August 1. Tuition: resident, $40 per semester; nr, $150 per semester. One research assistantship; hours' work unspecified; stipend, $300; new students eligible. One teaching assistantship; hours' work, teach one three-hour class; stipend, $50 per month of teaching; new students eligible. Apply by April to Dr. Merl E. Bonney, Chairman, Dept. of Psych.

Texas Technological College, Lubbock, Texas. Apply for admission to the Registrar one month prior to the beginning of any semester. Tuition: resident, $50; nr, $300. Nine counseling assistantships (6 women, 3 men); 14 hours' work; stipend, $810 ex except nr fees; new students eligible. One teaching assistantship; 9 hours' work; stipend, $500 ex except nr fees; new students eligible. Apply by August 1 to Dr. Lehman C. Hutchins, Chairman, Dept. of Psych.

Texas, University of, Austin, Texas.

Department of Psychology: Apply to Dr. Wayne H. Holtzman, Executive Secretary, Dept. of Psych. Tuition: resident, $25 a year; nr, $250 a year. MAT required. Seven scholarships; no work; stipend, $300 ex; new students eligible; apply at registration to Graduate Dean. Five fellowships; maximum of 20 hours' work; stipend, $1,080 ex; new students eligible; apply before March 15 to Chairman, Dept. of Psych. Twenty-five research assistantships; 20 hours' work; stipend, av. $1,470; new students eligible. Three teaching assistantships; maximum of 12 hours' work; stipend, max. $345.60, usually ex; new students eligible. VA program. Apply at registration to Chairman, Dept. of Psych.

Department of Educational Psychology: Apply for admission to Dr. O. B. Douglas, Chairman, before September 15. Tuition: resident, $50 a year; nr, $300 a year. GRE required. Three teaching assistantships; 20 hours' work; stipend, $1,040; new students eligible. Other positions available. Apply before September 1 to Chairman, Dept. Educ. Psych.

Toledo, University of, Toledo, Ohio. Apply for admission to Chairman, Dept. of Psych. before August 1. Tuition: resident, $210 a year; nr, $290 a year. Six scholarships; 20 hours' work; stipend, $1,200; new students eligible. Other positions available. Apply before June 1 to Head, Psych. Dept.

Tufts College, Medford 55, Mass. Apply for admission to Dean, Graduate School before April 1. Tuition: $550. GRE and MAT recommended. One scholarship; no work; stipend, ex; new students eligible. Three research assistantships; 20 hours' work; stipend, $1,200 ex for 11 months; new students eligible. One teaching assistantship; 20 hours' work; stipend, $1,000 ex (10 months); new students eligible. Other part-time positions available. The Institute for Applied Experimental Psychology, in the Department, employs several full-time students who have had one or more years of graduate work who may or may not have the MA. Inquiries are invited. Under special circumstances, a PhD candidate might be accepted. Apply by April 1 to Dean, Graduate School.

Tulane University, New Orleans, La. Apply for admission to Graduate Dean preferably before June 1. GRE required. Tuition: $500 a year. Scholarships; no work; stipend, $400–1,000; new students eligible. Fellowships; no work; stipend, $1,200–1,500; new students eligible. Ten research assistantships; hours of work vary; stipend, $800–1,400, sometimes ex; new students eligible. Six teaching assistantships; 12 hours' work; stipend, $800 ex; new students eligible. Other positions available. Apply before March 2 to Dean of the Graduate School.

Tulsa, University of, Tulsa, Okla. Apply for admission to Dean L. S. McLeod, Graduate Division. Tuition: $400. One or two graduate assistantships; 12 hours' work; stipend, $495 (9 months); new students eligible. Apply to Dr. L. S. McLeod, Graduate Division.

Utah State Agricultural College, Logan, Utah. Apply for admission to Dean Stewart Williams or

Dr. Arden Frandsen before May 15. Tuition: resident, $100; nr, $205. Four counseling assistantships; 10 hours' work; stipend, $425–850; new students eligible. Other part-time positions also available. Apply by May 15 to Dr. Arden Frandsen, Chairman, Dept. of Psych.

Utah, University of, Salt Lake City, Utah. Apply for admission to Dean, Graduate School, before August. Stipend: resident, approximately $150; nr, approximately $300. GRE recommended. Occasionally some scholarships and fellowships available through grants. Four research assistantships; 12 hours' work; stipend, $750 ex nr fee; new students eligible. Five teaching assistantships; hours of work vary; stipend, $65 per credit per quarter ex nr fee; new students eligible. Apply by June to Chairman, Dept. of Psych.

Vanderbilt University, Nashville, Tenn. Apply for admission to Dean of the Graduate School before February 15. GRE and MAT required. Tuition: $500 a year. Two scholarships; no work; stipend, $750–1,000; new students eligible. Four fellowships; 10–20 hours' work; stipend, $1,000–2,000; new students eligible. Four research assistantships; 10–12 hours' work; stipend, $800–1,200; new students eligible. Three teaching assistantships; 15–20 hours' work; stipend, $1,200–1,500; new students eligible. VA program. Other positions available. Apply before February 15 to Dean of Graduate School.

Vassar College, Poughkeepsie, New York. Apply for admission to Dean before March 1. Tuition: $475 a year. One fellowship; no work; stipend, $1,500; new students eligible. Two combined research and teaching assistantships; 15–20 hours' work; stipend, $1,200 ex; new students eligible. Apply before March 1 to Dr. Dwight W. Chapman, Chairman, Dept. of Psych.

Vermont, University of, Burlington, Vt. Apply for admission to Dean C. E. Braun, Graduate College. GRE required. Tuition: resident, $14 per semester hour; nr, $17.50 per semester hour. Fellowships and scholarships awarded to the most promising candidates for graduate work irrespective of department.

Virginia State College, Petersburg, Va. Apply for admission to Director, Graduate Division. Tuition: resident, $200 a year; nr, $250 a year. Ten research and teaching assistantships; 12–15 hours' work; stipend, $200–1,000; new students eligible. Apply before June 1 to Director, Graduate Division.

Virginia, University of, Charlottesville, Va. Apply for admission to Dean of Graduate School before June 1. Tuition: resident, $210; nr, $360. Fellowships; no work; stipend, $500–1,000 ex; new students eligible; apply before March 1 to Dean of Graduate School. Research assistantships; 15 hours' work; stipend, $600–1,000; new students eligible. Teaching assistantships; 6–12 hours' work; stipend, $200–600; new students eligible. Apply by June 1 to Dr. Frank A. Geldard, Chairman, Dept. of Psych.

Washington, State College of, Pullman, Wash. Apply for admission to Dean of Graduate School before June 1. Tuition: resident, $110 a year; nr, $270 a year. Two to four research assistantships; 20 hours' work; stipend, $1,200–2,000 ex nr; new students eligible; apply before April 1. Six teaching assistantships; 20 hours' work; stipend, $1,200–2,000 ex nr; new students eligible; apply before March 15. Thirteen counseling assistantships open. Apply to Dr. James H. Elder, Chairman, Dept. of Psych.

Washington University, St. Louis, Mo. Apply for admission to Dean, Graduate School of Arts and Sciences, before March 1. MAT required. Tuition: $525 a year. Scholarships; no work; stipend, $450–1,500; new students eligible. Fellowships; no work; $500–1,500. Research assistantships; 10–20 hours' work; stipend, $690–2,000. Teaching assistantships; 20 hours' work; $690–1,380. VA program. Other positions available. Apply before March 1 to Dr. Marion E. Bunch, Chairman, Psych. Dept.

Washington, University of, Seattle 5, Wash. Apply for admission to Graduate School for general admission; to Committee on Selection for department admission before April 1. MAT required. Tuition: resident, $165; nr, $315 a year. One scholarship; no work; stipend, $1,200; new students eligible. Two fellowships, 20 hours' work; stipend, $1,503 ex; new students eligible. Three research assistantships; 20 hours' work; stipend, $1,125 ex; new students eligible. Fifteen teaching assistantships: five, 20 hours' work, stipend $1,503 ex, new students eligible; two, 20 hours' work, sti-

pend $1,125 ex, new students eligible; eight, 10 hours' work, stipend $487.50, new students eligible. USPHS stipends. VA program. Apply before April 1 to Committee on Selection.

Wayne University, Detroit, Mich. Apply for admission to Dr. William C. F. Krueger, Chairman, Dept. of Psych. GRE required. Tuition: resident, $74 a year; nr, $100 a year. Four laboratory and teaching assistantships; 12 hours' work; stipend, $384; new students eligible. Two teaching assistantships; 20 hours' work; stipend, $1,000 ex; new students eligible. Apply to Dr. D. N. Elliott, Chairman, Graduate Committee, Psych. Dept.

Wellesley College, Wellesley, Mass. Apply for admission to Dean of Graduate Instruction before March 1. Tuition: $500 a year. Three teaching assistantships; 24 hours' work; stipend, $900–1,000 ex; new students eligible. Apply before March 1 to Dr. Michael J. Zigler.

Wesleyan University, Middletown, Conn. Apply for admission to Dr. John W. Spaeth before May 1. GRE required. Tuition: $600 a year. Two research assistantships; 20 hours' work; stipend, $1,600 ex; new students eligible. One teaching assistantship; 20 hours' work; stipend, $1,600 ex; new students eligible. Apply before May 1 to Dr. R. H. Knapp, Chairman, Dept. of Psych.

West Virginia University, Morgantown, W. Va. Apply for admission to Dr. Quin F. Curtis, Chairman, Dept. of Psych., before May 1. MAT required. Tuition: resident, $84 a year; nr, $234 a year. Two teaching assistantships; 15–20 hours' work; stipend, $1,200 ex; new students eligible. Apply before May 1 to Dr. Quin F. Curtis.

Western Ontario, University of, London, Ont., Canada. Apply for admission to Dr. R. A. Allen, Dean of the Faculty of Graduate Studies, before July 1. Tuition: $230 a year. Two to four fellowships; 6 hours' work; stipend, $600–1,000; new students eligible. Apply before March 31 to Dr. R. B. Liddy, Chairman, Dept. of Psych.

Western Reserve University, Cleveland 6, Ohio. Apply for admission to Director of Admissions. MAT required. Tuition: $20 per credit hour.

Department of Psychology: Scholarships; no work; stipend varies; new students eligible; apply before September 1. One fellowship; no work; stipend, $1,200 up. One research assistantship; 20 hours' work; stipend, $900–1,800 ex. Two teaching fellowships; 20 hours' work; stipend, $900–1,800 ex. Six teaching assistantships; 15 hours' work; stipend, $700–900 ex; new students eligible. VA program. USPHS stipends. Other positions available. Apply before March 1 to Office of Admissions.

Research Institute and the *Vocational Counseling Center.* Twenty-five research associateships and research assistantships.

Wisconsin, University of, Madison, Wis. Apply for admission to Prof. E. E. Baughman, Admissions Committee, by June 1, preferably earlier. Tuition: resident, $150 a year; nr, $300 a year. Four scholarships; no work; stipend, ex nr; new students eligible. Four fellowships, no work; stipend, $1,150–1,500 ex nr; new students eligible. Thirty research assistantships; 20 hours' work; stipend, $1,150–2,830 ex nr; new students eligible. Fifteen teaching assistantships; stipend, $1,150–1,380 ex nr; new students eligible. USPHS stipends. VA program. Other positions available. Apply before February 1 to Prof. E. E. Baughman, Admissions Committee, Dept. of Psych.

Wyoming, University of, Laramie, Wyo. Apply for admission to Director of Admissions before August 15. Tuition: resident, $156 a year; nr, $366 a year. Six scholarships; no work; stipend, ex; new students eligible. Two research assistantships; 15 hours' work; stipend, $720–1,000 ex; new students eligible. Apply by March 1 to Dean, Graduate School. One teaching assistantship; 8 hours' work; stipend, $720 ex; new students eligible. Apply before March 1 to Head, Department of Psych. and Philosophy.

Yale University, New Haven, Conn. Apply for admission to Office of the Dean of the Graduate School preferably before February 15; final deadline, June 1. GRE required. Tuition: $500 a year. Two to four scholarships; no work; stipend, $250–500; new students eligible. Eight to ten fellowships; no work; stipend, $1,200–1,500; new students eligible. Twelve to eighteen research assistantships; 10–20 hours' work; stipend, $750–1,500; new students eligible. Three to five teaching assistantships; 10–20 hours' work; stipend, $750–1,500; new students eligible. VA program. USPHS sti-

pends. Apply before February 15 to Office of the Dean of the Graduate School.

Yeshiva University, New York 33, N. Y. Apply for admission to Dr. Jacob I. Hartstein, Dean, Graduate Division before June 1 for fall term; November 1 for spring term. Tuition: $270–395. GRE required. Part-time professional positions available in the Psychological Clinic.

REFERENCES

1. AMERICAN PSYCHOLOGICAL ASSOCIATION. OFFICE OF THE EXECUTIVE SECRETARY. Stipends for graduate students in psychology: 1952–1953. *Amer. Psychologist*, 1952, **7**, 64–82.
2. EDUCATION AND TRAINING BOARD, AMERICAN PSYCHOLOGICAL ASSOCIATION. Approved doctoral training programs in clinical psychology. *Amer. Psychologist*, 1952, **7**, 158.
3. IRWIN, MARY (Ed.). *American universities and colleges*. (6th Ed.) Washington, D. C.: Amer. Council on Educ., 1952.
4. SEARS, ROBERT R. Clinical training facilities: 1947. A report from the Committee on Graduate and Professional Training. *Amer. Psychologist*, 1947, **2**, 199–205.
5. SEARS, ROBERT R. Graduate training facilities. I. General information. II. Clinical psychology. *Amer. Psychologist*, 1946, **1**, 135–151.
6. Stipends for graduate students in psychology and related fields, 1948–1949. *Amer. Psychologist*, 1948, **3**, 20–29.
7. Stipends for graduate students in psychology 1949–50. *Amer. Psychologist*, 1949, **4**, 3–16.
8. WOLFLE, HELEN M. Graduate training facilities in psychology: 1951–52. *Amer. Psychologist*, 1951, **6**, 3–30.

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NEW ASSOCIATES OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

APA BOARD OF DIRECTORS

THE Board of Directors announces that the following 1,205 persons were elected Associates of the American Psychological Association as of January 1, 1953. Though not all of them have validated their election by paying their dues, all but a few of them will eventually do so.

Aaronson, Herbert G.
Ackerman, David
Adair, Eleanor Reed
Adams, Edward Byrne
Adams, James Frederick
Adamson, John Fuller
Ader, Saul
Adornetto, Joseph S.
Aidel, Ella
Aines, Andrew A.
Alexander, William Austin
Allen, Dean Austin
Allerhand, Melvin Eugene
Allison, Roger Blaine, Jr.
Alprin, Stanley Ira
Altman, James William
Altschul, Louis
Alvarez, Lee Lefcourt
Ambinder, Walter Jackie
Anderson, Charles William Geeves
Andreychuk, Theodore
Anglin, Eleanor Mary
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Arundel, Eusebius
Ashby, Jefferson David
Atkins, Thomas Edward
Aukes, Lewis Ehme
Aumack, Frank Lewis
Austin, Thomas Robert
Ayers, John Douglas Large

Bachus, John A.
Backus, Ollie
Bailey, Clark James
Bailey, Mattox Augustus
Baker, Charles Adolphus
Baldauf, Robert John
Baldridge, Marie
Balistrieri, James Joseph
Ballard, Edgar T.
Bamford, Harold Edward
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Barnes, Eugene Hume
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Barry, John Joseph, Jr.
Barthol, Richard Paul
Basescu, Sabert
Bassett, Norma Adnee
Bassham, Robert Allen
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Batterton, Robert Leslie
Bauer, Herbert Joseph
Bauernfeind, Robert Howard
Beach, David Nelson, III
Beardslee, David Cromwell
Beers, Vernon Lee
Bell, Albert Avery
Belleville, Richard Edward
Benjamin, Robert Myles
Bennett, John, Jr.
Bennett, Porter
Bentson, Thomas Gentry
Berdy, Edwin Martin
Berg, Wilbert Arthur
Berger, Seymour Maurice
Berko, Martin Joseph
Berkowitz, Howard
Bernstein, Abraham
Bernstein, Alvin J.
Bernstein, Howard B.
Berres, Frances Brandes
Bertrand, John Raney
Beverly, Robert Francis
Bierbaum, William Baylor
Bieri, James
Bieri, Janet Wood
Binder, Arnold
Birch, Joseph David
Bird, Thomas Christopher
Birney, Robert Charles
Blackledge, Stanley James
Blair, Harry Walter
Blanchard, William Henry
Blane, Howard Thomas
Blank, Marjorie K.
Blatt, Arthur
Blatt, Sidney Jules
Blaustein, Florence Leah
Bleke, Robert Charles
Blumenkrantz, Jack
Blumenthal, Sophie Bertha
Bocknek, Gene
Boger, Jack Holt
Boice, Mary Lou
Boland, John Louis
Bolander, William George
Bonanno, Justin S.
Bondel, Gertrude
Boneau, Charles Alan
Borland, Loren Ross
Bowdlear, Charles Milton
Bowen, John Haynes
Bower, Philip Adair
Bowers, Norman Dale
Boyce, James Edward
Boyd, William Worth
Brackin, Walter Hannaum
Brackmann, John Fred, Jr.
Bradley, Jack Irving
Bradley, Joseph Edward
Bradshaw, Donald Holmes
Braithwaite, Royden C.
Bramlette, Carl Allen, Jr.
Brantly, James Jackson Ivy
Branzovich, Michael
Bregman, Martin
Bricker, Peter Dock, III
Briggs, George Edward, Jr.
Brinkmann, Lois L.
Brochard, John Hunter
Brody, Harold
Brody, Zelmore Haber
Brogno, Frank Paul
Brown, Charles William
Brown, Donald Vaughn
Brown, Edward Lawrence
Brown, Elizabeth Myers
Brown, James Adger
Brown, Natalie Lewinger
Brown, Roger William
Brown, William O.
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Budd, William Claude
Budnoff, Irving Joseph
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Burdulis, Edward B.
Burke, John Thomas
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Burstein, Abraham Isaac
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Bush, William Ralph
Byers, Joanna
Byrd, Eugene

Cahill, Robert Francis
Calabria, Frank Michael
Calvert, John Freeman
Cambareri, John Dominic
Campbell, Byron Adams
Cangiano, Pasquale Louis
Carey, James Francis, Jr.
Carini, Louis Peter
Carleton, Frederick Onias
Carper, James W.
Cartee, James Keith
Casey, John Edward
Caston, William Frank
Casucci, James Gerard
Catalano, Frank Louis
Chalupsky, Albert Bernard
Chamberlin, Lorraine Ellen
Chance, Erika
Chappell, Tolan L.
Charnes, George
Cherry, Charles Noah
Christal, Raymond Edward
Christopherson, Victor A.
Clapp, Chester D.
Clark, Carl Arthur
Clark, Rodney Abbott
Clevan, Walter Arnold
Cline, Victor Bailey
Coan, Richard Welton
Coates, Charles Hunter
Cobb, Aldrena Beatrix
Cobrinik, Leonard Herman
Cocheres, Thomas L.
Cohen, Herbert
Cohen, Leon
Cohen, Lester
Cohen, Martin

Cohen, Murray Louis
Cohen, Sydney
Colbert, John
Colbert, Miriam Wax
Coleman, Leonard
Colgan, Carroll Monroe
Collins, Chester Charles
Collins, John Joseph
Colton, Kathryn Cecelia
Comer, Patrick Boyce, Jr.
Conklin, Edmund Holbrook
Conners, John Edward
Cook, Murray
Cook, W. Roland
Coombs, Robert Warren
Coons, Wesley Harrison
Corder, Robert Floyd
Cornwell, Henry Gilbert
Cortes, Carlos Felipe
Cottrell, Leonard Slater, Jr.
Covatta, Nicholas Daniel
Covault, Richard Earl
Coyer, Robert A.
Craig, Robert Charles
Craig, William John
Crane, William Joseph
Cravens, Richard Baldwin
Creager, John Alden
Crockett, Walter Hobson
Cuadra, Carlos Albert
Cumming, William Gordon, Jr.
Cumming, William Wallace
Cummings, Nicholas Andrew
Cureton, Thomas Kirk, Jr.
Cutler, Harold Max

Dai, Bingham
Damrin, Dora Elizabeth
Daniel, James Patterson
Danskin, David Guild
Davage, Robert Harvey
Davidson, Marjorie Elaine
Davis, John Allyn
Davis, John Robert
Davis, Ralph Edmond
Davy, Earl
Dean, Charles William
Dearmont, Richard Earl
Delit, Maurice
del Olmo, Francisco B.
Del Vecchio, Anthony James
DeSousa, Theresa Lorraine
Deutsch, Stanley
DeVanney, Harry Lester
DeVoe, Robert P.
Dewey, Richard
DiBuono, Eleanor Karasek
Dickson, John Thomas
Diener, Russell Edward
Dieppa, Jorge J.
Diers, Wallace Carlton
Digman, John Murray
DiMartino, Angelina Florenza
Dingman, Harvey F.
Dinwiddie, Frank William
Dobalian, Vaughn
Doland, Dilman John
Dolger, George
Dölphin, Jane Elizabeth
Doris, Robert E.
Dow, Dorothy Dayton
Downs, Erich
Doyle, William Augustine
Drebus, Richard William
Dreyer, Albert Stanley
Driggs, Don Fehring
Drucker, Melvin Bruce
Dugan, Genevieve Eleanor
Dunlap, Dorothy J.
Dunlap, Ralph Livingston
Dunlevy, George Patric
Dunnette, Marvin Dale
Dutcher, Mary Ault

Earley, Helen Corinne
Easley, Glenn Truett
Eason, Robert Gaston
Eaton, Dorothy Morgenthau
Eddins, Edgar Lee
Edson, Elizabeth Peterson
Efron, Herman Yale
Egan, John Mark
Einhorn, Harold Lee
Elliott, Carl Hartley
Engelhart, Max Dissette
Engen, Trygg
Engram, William Carl
Erlandson, Forrest Leroy
Esbenshade, Ann Augusta
Eskin, Lawrence D.
Estroff, Vilma
Everson, Richard R.
Ewell, Albert Hunter, Jr.

Fabian, Frederick Ernest
Fager, Robert Eugene
Fancher, Edwin C.
Farber, Nathan
Farley, Robert Edward
Feffer, Melvin Harold
Feldman, Herman
Felzer, Stanton Bernard
Ferguson, Donald Glenn
Fernandez, Elvira Juliana
Fierman, Ella Yensen
Fikso, Adam
Filosa, Mary Grace
Fincher, Cameron Lane
Findlay, Donald Charles
Fine, Harold J.
Finkelstein, Melville
Finoccio, Dom Vincent
Fischer, Harvey Jay
Fisher, Millard George
Fisher, Stanley Herbert
Fitzgerald, Bernard Joseph
Fitgerald, Roberta May
Fitzpatrick, Richard Stanislaus
Flaugher, Ralph Raymond
Fletcher, John Lynn
Flyer, Eli Stanley
Flynn, Estelle Doyle
Flynn, James Joseph
Foley, Andrew W.
Folsom, Willys Ward
Ford, Frank Bernard
Forrest, Tess
Foshee, James G.
Fox, Gerald Julian
Fox, Jack
Francus, Joseph Benjamin
Frank, George Hugh
Frank, George Paul
Frank, Lewis B.
Franklin, Lois Elaine
Franks, Violet Greenberg
Freas, Howard Jacob, Jr.
Freer, James Joseph
Fregly, Alfred Romeo
Freitag, Melvin H.
French, Anne Couch
Fretwell, Mary
Frick, Willard Blair
Fricke, Benno Gerry
Friedman, Alfred S.
Frisch, Paul
Froehlich, Abraham
Frost, Laurence Leonard
Froyd, James Russell
Fulcher, Robert Clinton, Jr.
Fuller, John Langworthy
Funk, Martin Albert

Ganzhorn, Betty Jane
Garcia, Jorge
Gardiner, Jean S.
Gardner, Malcolm Legrande
Gardon, Richard Andrew
Garfunkel, Charlotte B.
Gargiulo, Armando
Garman, Glen Dale
Garwood, Victor P.
Gavurin, Edward I.
Gebel, Arnold S.
Germain, George L.
Gershoff, Marjorie L.
Getz, Steven
Giangrande, Salvatore Charles
Gibby, Mabel Kunce
Gibson, Barbara Jeanne
Gibson, Robert L.
Gilberstadt, Harold
Ginott, Haim Ginsburg
Ginsburg, Sol Wiener
Gitlin, Sidney
Glasscock, Edwin Moore
Glazer, Stanford Howard
Glickert, Robert Winslow
Gloye, Eugene Ernest
Gochman, Stanley I.
Gold, Glenn S.
Golden, Daniel
Goldfarb, Allan
Goldsmith, Alice Long
Goldsmith, Harry
Goldstein, Irving Morton
Goldstein, Mymon
Golub, Arnold Jason
Good, Jeanne Ermel
Goode, Maxim
Goodenough, Donald Robert
Goodstein, Martin S.
Gordon, Bruce Ronald
Gordon, Edward Martin
Gordon, Oakley Junior
Gowan, John Curtis
Grace, N. Burton
Graebner, Oliver Edwin
Graetz, Robert Edward, Jr.
Graham, Milton Duke
Grams, Armin
Grant, Lestina Marguerite
Gravitz, Melvin A.
Green, Dorothy Eunice
Green, Edward J.
Green, Ruth R.
Greenbaum, Marvin
Greenberg, Albert
Greenberg, Arthur L.
Greenberg, Irvin
Greenwald, Harold Jonathan
Gresock, Clement James
Griffiths, Jack Stewart
Gruber, Joseph
Guastella, Martha Jane
Guess, Leverett Leroy
Gunn, Robert Leroy
Gurel, Lee
Gurr, Muriel N.
Gustafson, Levarl Merle
Guyer, Earl Guilford

Haas, Janet Allyn
Haas, Sister Mary Aquinas, SCL
Haase, William
Haber, William B.
Hafner, James Lewis
Hagin, Rosa A.
Hagin, William Van
Hahn, Hans
Hahn, Jack
Halpin, Thomas Joseph
Halpin, Virginia Gould

Hamilton, Suzanne
Hand, Jack
Handlon, Joseph Harold
Hannum, Thomas Edward
Hansch, Francis Noel
Hansen, Minna Magdalena
Hao, Peter Te Yuan
Harding, Francis David, Jr.
Harriman, Arthur Ernest
Harrington, Gordon Mackenzie
Harrington, Robert Willard
Harris, Frances Haven
Harris, James L.
Harris, Richard Howard
Hartley, David Sidwell
Hartmann, Walter
Harvey, O. J.
Hasler, Kermit Ralph
Hausler, Colleen J.
Hawkins, William A.
Hayes, George Warren
Haykin, Martin D.
Hayne, Melvin Lee
Healey, Robert E.
Heath, Douglas Hamilton
Heckelman, Rodamon Gilbert
Heim, Richard Barron
Heimann, Robert A.
Heineman, Charles Edward
Heinemann, Eric Gustav
Henderson, Florence Margaret
Henderson, Gordon H.
Hensley, Iven Howe
Heron, Alastair
Herring, Fred Henry
Herrmann, Robert Stott
Hershkowitz, Aaron
Hewitt, Benjamin Attmore
Hickey, Albert Edmund, Jr.
Hicks, Leslie Hubert, Jr.
Hilliard, George Edwin
Hines, Ruth Frances
Hobbs, Marjorie Monroe
Hocker, Margaret Wingeard
Hoffman, Barbara Ann
Hoffman, Robert Lee
Hogue, Henry William
Holbrook, Jack Denton
Hollon, Thomas Harry
Holt, Howard Oliver
Honig, Alice Sterling
Hook, Marion Emerson
Hoover, Arthur Eugene
Horgan, James Francis
Horn, Raymond Albert
Horowitz, Arnold Elie
Horrall, Bernice M.
Horton, Gilbert Eugene
Horwath, John Frederick
Hovell, Frank, Jr.
Howell, Beatrice
Hozier, Ann Quinton
Huckaby, Bill Herbert
Huffman, Phyllis Elaine
Hughes, James B., II
Hughes, Robert Bruce
Hugo, Francis Goodale
Hujsa, Charles J.
Hulbert, Slade Frank
Hummel, Raymond Charles
Hunt, Jacob Tate
Hurley, John Francis
Hurley, John Richard
Hurvich, Dorothea Jameson
Hutcheon, James Francis
Hutter, Samuel
Hutton, Daniel Cogdell
Hyman, Dean Emerson
Hyman, Ray

Ihrig, Howard
Imre, Paul
Ireland, Fred Harold
Irey, Alice Eloise
Isaacs, Dale Allen

Jack, Ollie C., Jr.
Jacobs, Eleanor Alice
Jacobs, Samuel Norman
Jacobson, Frank N.
James, William H.
Jamison, John Herbert
Jenkins, Herbert Miles
Jenkins, Nora Congdon
Jennings, Charles Lyle
Jensen, Bonnie Egeland
Jenson, Paul Gerhard
Jervis, Frederick Martin
John, Eve Spiro
Johnson, Cecil Davis
Johnson, Laverne C.
Johnson, Lennart Charles
Johnson, Thomas Gordon
Johnston, Elizabeth Graham
Johnston, Ralph Irving Augustine
Jones, Charles A.
Jones, Francis Ewing
Jorve, Warren Russel
Joseph, Jacob J.
Joyce, James Neal
Judd, Jerome M.
Judy, Chester Jack

Kadis, Asya L.
Kaestner, Noel Frank
Kagan, Jerry
Kahane, Murray
Kalis, Betty Lee
Kalish, Harry Isadore
Kallejian, Verne Joseph
Kaminska, Richard Carl
Kandik, Alfred
Kanous, Lawrence Ellis
Kantrowitz, Gerald
Kantrowitz, Theodore
Kapotas, Charles Nicholas
Kapoun, Jeanne Poslusny
Karroll, Joseph Elliot
Katz, Florine K.
Kaufman, Natalie B.
Kaufman, Paul
Kaye, Howard Alan
Kazienko, Louis Walter
Keller, Ralph Waldo
Kemp, Charles Frederick
Kent, Howard R.
Kenyon, Eunice L.
Kerber, Harold Eugene
Kernan, John Paul
Kesner, Lawrence Stewart
Kessen, William
Kessler, Betty Razor
Kessler, Charles Richards
Kessler, Sydney
Kingston, Albert James, Jr.
Kipnis, David
Kirchner, Wayne Kermit
Kirk, Robert Bruce
Kish, George Bela
Klein, Lilli Margot
Kleinbaum, Joseph
Kleinfeld, Alfred
Kleinman, Bernard
Kleinman, Joseph
Klieger, Walter Aaron
Klingelhofer, Edwin Lewis
Knoell, Dorothy Marie
Kokjer, Ruth Wilson
Korb, L. David
Kosmerl, Alice F.
Kostick, Max Martin
Kramer, Abe Sidney
Krantz, Gordon Christian
Krause, Allen Herbert
Krieger, Howard Paul
Kristofferson, Alfred Boyd
Kropp, Russell Paul
Kubany, Albert Jules
Kumnick, Lillian S.
Kupferman, Saul Charles
Kushner, Malcolm

LaBerge, David Lee
Laidlaw, Robert Gordon Nicholas
Lamke, Tom Arthur
Lanagan, Robert James
Lane, Ellen Amster
LaPorte, Harold Roy, Jr.
Larsen, Reed Mathews
Lasoff, Benjamin
Laties, Victor Gregory
Latreille, Frederick Gerard
Lauderdale, Thomas Wilson, Jr.
Laurence, Mary Wright
Laux, Elizabeth Hamilton
Laux, Richard Gregg
Lavender, H. Jerry
Lawlor, William Gerard
Lawrence, William Charles
Lawrenson, Thomas Joseph
Lawton, Mortimer Powell
Layne, Eric
LeBoit, Joseph
Lee, Alfred McClung
Lee, Gilbert Brooks
Lee, Marilyn Cairns
Lee, Robert Sanford
Leedy, Herbert Barton
Lemeshow, Seymour
Lenzycki, Henry Paul
Lepore, Albert Ralph
Levine, Seymour
Levinger, George Klaus
Levinson, Billey
Levitt, Morton
Levy, Leo
Levy, Leon Harris
Levy, Seymour Paul
Lewis, Dorothy Grace
Lewis, Hadley McCoy
Lewis, Robert Turner
Librach, Stephanie Justyna
Lichtenberg, Philip
Lichtenstein, Irving Caleb
Lilly, Paul Joseph
Lincoln, Robert Stanley
Littell, William McKay
Livingston, Charles David
Livingston, Goodhue, III
Lockman, Robert Frank
Lodge, William J.
Loeffler, Frank Joseph
Lofchie, Stanley
Long, Robert Francis
Lopategui, Miguelina N.
Lopez-Ibor, Juan J.
Lothridge, Charles David
Lovell, Charles Schuyler
Low, Lillian
Luke, Walter S.
Lund, Duane Richard
Lundy, Richard M.
Lupfer, Barbara Ann
Luria, Saul Martin
Lybrand, William Allen
Lykken, David T.
Lynch, Ruth
Lyons, Joseph

Maass, Richard Conrad
MacCaslin, Eugene Frederic
MacDonald, Malcolm Douglas
MacKay, William Robert
Mackey, Woodrow Wilson
Madciff, Emma Isabelle
Madden, Howard Lavelle
Magee, Katharine Joan
Magrath, Dorothy Ruth
Mahrer, Alvin Raymond
Main, Jane Lockwood
Mainord, Florence R.
Mainord, Willard A.
Malfetti, James Luke
Mally, George Arthur
Mandeville, Paul Frederick
Mandl, Billie Sue
Mangelsdorf, John Ellis
Mankin, Victor Justus
Mann, Lester
Mantay, Marilyn M.
Marks, Malcolm Joseph
Marley, Francis William
Marshall, Max L.
Martin, Nancy McCurdy
Marty, Dorothy Mildred
Mason, Chaytor Diez
Mason, Joseph Matthew
Masterman, Louis E.
Mateson, Jean Frederick
Mathews, Ravenna Wakefield
Matthews, Hannah Polster
Maxwell, Eleanor Frances
May, Werner Theodore
Mayans, Frank, Jr.
Mayer, Walter Edwin
Mayo, Samuel Turberville
Mazurek, Bernice Rose
McArdle, Dorothy Delia Scholastica
McCabe, Frank John
McCambridge, Barbara Anne
McCavitt, Martin Edward
McClure, John Allan
McCord, Hallack Hamilton
McCornack, Robert L.
McDowell, Gloria Mae
McElroy, Jack Crow
McElvaney, Charles Thomas
McGuire, Frederick Lynch
McGuire, William James
McHale, Julia Lois
McHugh, Ann Frances
McKillop, Anne Selley
McKnelly, Theodore T.
McQueen, Robert
Meade, Robert Dale
Meads, William Jewett
Melching, William Howard
Meleika, Louis Kamel
Melhado, Julian J.
Mellett, Thomas Paul
Meltzer, Leo
Melzack, Ronald
Menges, Paul Fillmore
Menlo, Allen
Messler, Martha Anne
Meyer, John Kellogg
Meyer, William Jones
Meyersburg, Anne
Michael, Donald Nelson
Michaelson, Franklyn Jack
Michon, Zigmond Sagittarius
Mick, Roger Marcus
Middleton, George, Jr.
Milam, James Robert
Milholland, John Edgar
Miller, Christine Mathews
Miller, Gail S.
Miller, John Ydstie
Miller, Ray A.
Miller, Wilfred T.
Millon, Theodore
Milton, Charles Rudolph
Mindess, Harvey
Miner, John Burnham
Mirsky, Allan Franklin
Misch, Robert C.
Mishinsky, Jack
Mitchell, Charles C.
Mitchell, Rebecca O. Nelson
Monaco, Arthur Theodore
Monderer, Jack H.
Montgomery, Betty Broyles
Moody, Joan Vogt
Morris, Charles Eugene
Morris, James B.
Morse, William Herbert
Morter, LaRoy Joseph
Morton, Billie Palmer
Mould, Lilian J.
Mowry, Harley Warren, III
Moyer, James Edward
Moylan, Joseph James
Mueller-Zbylut, Mirjam Ingeburg
Muhlbauer, Anna
Muller, Theresa Grace
Mullin, Carlos Paine
Mullins, Cecil J.
Munroe, Henry H.
Murawski, Benjamin J.
Murphy, John V.
Musiker, Harold Robert
Myers, Arlo Kenneth
Myrick, Richard

Nado, Fred John
Nagle, Bryant Frutchey
Najarian, Michael
Narmore, Phyllis May
Neimark, Edith D.
Nelson, Charles Larue
Nelson, Constance B.
Neu, Janice Page
Neville, Albert Roland
Newman, Carl
Newman, John Robert
Newman, Joseph
Newman, Ruth Gallert
Newman, Stanley
Newmark, Frances Connor
Nichols, Robert Cosby
Nickeson, Richard Carroll
Niebuhr, Herman, Jr.
Nierman, Florence Kathryn
Nixon, George
Noble, Eric
Nolan, Carson Young
Noll, Esther Gould
Noll, John Owen
Norris, Howard Jerome
North, George E.
Northcott, Hollie Bryant
Nurse, Alexander Rodney

O'Connor, Roderick Francis
Oettel, Arnold Max
Ogdon, Donald Potter
O'Hare, John Joseph
Oliver, Kenneth Robb
Olsen, Leif Ole
Olson, Norman King
Olson, Ray Willard
Oltean, Mary Marie
O'Neill, Harry William
Ort, Jeannette Eileen
Osterweil, Jerry
Ostrander, Edward Robert
Ostreicher, Leonard Martin
Otte, Richard Brand
Overlade, Dan C.
Owen, Robert Lee

Page, Curtis W.
Palmatier, William Andersen
Palter, Gerald Harvey
Panzer, Basil I.
Pappas, Georgia Ann
Parker, Donald Henry
Parloff, Morris Bernard
Parsons, Edward Thomas
Pasto, Tarmo Abraham
Pastovic, John Joseph
Patteson, Richard Francis
Pauker, Jerome D.
Paull, Donald Myron
Paulsen, John Robert
Payne, Marshall Brown
Pellet, Bernard
Perez, Paul Powers
Perry, Dallis Kay
Perry, Norman Conrad
Peterson, Peggy Pottenger
Peterson, Donald Robert
Peterson, Eleanor Marie
Peterson, Norman Dale
Peterson, Richard Oscar
Peterson, Robert Maurice
Peterson, William Charles
Pfeffer, Marjorie
Phelleps, Ralph James
Piers, Ellen Virginia
Pierson, Rowland Ray
Plaut, Thomas Franz Alfred
Pletts, Gilbert Oliver
Poffenberger, Thomas Millard
Polin, Albert Terrence
Pollock, George Howard
Pollock, William Thomas
Popenoe, Edith Palmer
Popper, Harry John
Porter, Vonne F.
Postma, Mary
Potter, Ruth E.
Potter, Walter Franklin
Powell, Frank V.
Power, Ann Elizabeth
Preston, Caroline Eldredge
Price, Helen G.
Prilook, Lydia
Pritchett, Edwin Earl

Rabinovitch, Mortimer Sam
Rackley, Lloyd Ernest
Racusen, Frances Rhea
Rader, Gordon E.
Radner, Louis
Rahman, James Ernest
Ranson, Mary Kathleen
Rasmussen, Alex L.
Rasmussen, Iris Silliphant
Rast, Robert
Ray, William Samuel
Redlener, Joe
Reece, Allan MacDonald
Reed, Charles Frederick
Reed, Homer Blosser Carey, Jr.
Reed, Jeannette Pruyn
Reiff, Robert
Reisel, Jerome
Reiter, Sidney R.
Renaud, George Emile
Reuben, Howard
Reveal, Robert, Jr.
Rhodes, James Melvin
Rhodes, William C.
Riche, Charles Van, Jr.
Richey, Harold Winston
Rickard, Joseph Conway
Ringel, Seymour
Riss, Walter
Roach, Darrell Eugene

Robbins, Arthur
Robbins, Sidney S.
Roberts, Charles Lewis
Roberts, Eugene Elbert
Robinowitz, Ralph
Robinson, Frank Bennett
Roby, Thornton Boswell
Rochwarg, Herman
Rockberger, Harry
Rockway, Marty Robert
Rodgin, David W.
Rodrigues, John Silva
Romberger, Roy Walter
Rome, Howard S.
Rorke, Neal John
Rosen, Catherine Elkin
Rosenberg, Margery R.
Rosenfeld, Irwin Joseph
Rosenzweig, Milton I.
Rosner, Stanley
Ross, David
Ross, Roy Weldon
Roth, Ammon Clinton, Jr.
Roth, Bernard
Rothkopf, Ernst Zacharias
Rothstein, Hyman
Rowan, Thomas Churchill
Rowe, William Jennings
Rowland, George Edward
Roy, Joy Benjamin
Rubin, Gerald
Rubinstein, Beatrice Ruth
Rudel, Rita Gillis
Runyon, Eugene Louis
Runyon, Richard Porter
Russell, George Hugh
Russell, James Ward
Rutledge, Lester Thomas
Ryan, Doris Elizabeth

Sacarello, Virginia
Salman, Raymond Daniel
Salpeter, Miriam Mark
Sammons, Herbert W., Jr.
Sampson, Harold
Sampson, Richard T.
Sanford, Edwin John Matthew
Sartin, James Lewis
Saunders, Roger Earle
Sawrey, William Lester
Schaeffer, Maurice S.
Schaffer, Robert E.
Scharlock, Donald Peter
Scheele, Jean Burgdorf
Scheidler, Charles Henry
Schell, John S.
Schenkel, Kenneth Francis
Scherer, Wallace Brown
Schillinger, Morton S.
Schlosser, John Rolland
Schmidt, Eleanor Parker
Schmidt, Louis G.
Schmitter, Earl Godfred
Schpoont, Seymour Hirsh
Schulman, Jacob
Schulman, Joseph Herbert
Schutz, Howard Gene
Scott, Carl Lee
Scott, Jerold David
Scott, William Abbott
Seaquist, Maurice Raymond
Segal, Julius
Segel, Harold Jerome
Shaffer, Charles Louis
Shapiro, David Sidney
Shapiro, Esther Winkler
Shapiro, Martin Allen
Shayne, Theol Joyce
Sherman, Lewis Joseph
Shevitz, Reuben Nathan
Shipman, William Gibson
Shore, Milton Frank
Showers, Kay Sperry
Shriver, Edgar Louis
Shrock, John G.
Shulman, Harold Seymour
Shure, Gerald Hymen
Sidney, George Paul
Siegel, Saul Marvin
Silverberg, Celia Sylvia
Silverstein, Arthur Bertram
Simmons, David B. W., Sr.
Simmons, Robert Francis
Simms, Nancy
Simon, Maria Dorothea
Simon, Walter Benno
Simons, Ann Ruth
Sims, Neil Barton
Singer, Harry
Sinnett, Earle Robert
Skillman, Joanne Sweeney
Slabodkin, Irving
Slade, Colin McIntosh
Slivinske, Alec Joseph
Slockbower, Edward Windsor
Slocombe, Edna Elizabeth
Small, Kalman
Smith, Donald Eugene
Smith, James Calvin
Smith, James Elwood
Smith, Lyman
Smith, Myra Jean
Smith, Robert Edward
Smith, Sidney Layton
Smith, Stanley Wallace
Smith, Walter Douglas
Smock, Charles Denby
Snowden, Robert Fort
Snyder, Francis Frederick
Snyder, Rebecca
Solomon, Adrian
Sone, Robert Thomas
Spiegel, Joseph
Spiegel, Stanley
Spieth, Walter
Spitz, Lucille Lesch
Spivack, George
Sprung, Stanley Robert
Stadele, Marjorie Mabel
Staley, John D.
Stanton, John Michael
Staples, Ethel Janes
Starr, Clark Dean
Stein, Elisabeth Mays
Stein, Jacob J.
Steinberg, Leonard
Steiner, Ivan Dale
Steinert, Richard Maurice
Steinschneider, Alfred
Stern, Murray Jack
Stevenson, Harold William
Stone, David Ray
Stone, Edmund Cyril
Stone, Freda Beth
Stone, George Chester
Stone, John Truman
Stott, Richard Lavon
Strachan, Robert Edward
Strain, Edward Richard, Jr.
Strange, Frank Bolin
Struck, Richard Daniel
Suci, George John
Summers, Linden Dulaney, Jr.
Summo, Anthony J.
Sumner, Earl D.
Sunde, John Alfred
Sussel, Lora
Sutter, Everett Lee
Svenson, Donald Wright
Swan, Robert Junior
Swanson, Charles Edmund
Swanson, Robert A.

Taaffe, Gordon
Tabor, Anthony B.
Taibl, Raymond Martin
Tamkin, Arthur S.
Taranto, Americo
Tarvin, John Cogle
Tasso, Charles Anthony
Tatom, Mary Helen
Tatz, Sherman Joseph
Taub, Daniel Victor
Tauger, Herbert
Taylor, Jean Grove
Taylor, Vivian Decker
Teitel, Stanley
Temerlin, Maurice Kahn
Terry, James Hunter
Tesseneer, Ralph A., Jr.
Thaves, Robert Lee
Thayer, Clarence Richmond
Thomas, Brother Claver
Thomas, Robert Murray
Thompson, F. Fagan
Thomson, Louise G.
Thorne, Russel L.
Thurston, John Ross
Tieger, Murray Emanuel
Tiemann, Robert Sisson
Tillery, Harry Dale
Tollefson, Arthur Leroy
Tondow, Murray
Toorenaar, Gerard J.
Torr, Donald Vernon
Torroella Gonzalez Mora, Gustavo
Townsend, Agatha
Trabold, Frederick William
Trachtman, Gilbert Marvin
Treesh, Edward Oron
Trelub, Arnold
Tremaine, Donahue Leon
Trinkaus, William Krueger
Trione, Verdun
Trovillo, Paul Vincent
Tseng, Sing Chu
Tydlaska, Mary Ann

Ulrich, Charles Monroe

Vail, Carleton McCulloch
Vana, Alice Otilie
Van Fleet, Parmer D.
Vayda, Kenneth Gerald
Verdicchio, Frank Gerald
Vermillion, Mary E.
Vigliano, Aldo
Vogt, David James
Voiers, William Dawson
Volle, Frank Oliver

Wadsworth, Mary Vicars
Wagner, Martin
Wahlstedt, Betty
Wait, Gale Pepper
Wald, Charles
Wald, Robert Martin
Walder, Leopold Oscar
Walker, Donald Everett
Walker, Francis Charles
Walker, Gardner Browning
Walker, Richard Norris
Walker, William Brewster
Walter, Lowell McNees
Ward, Joe Henry, Jr.
Ward, Virgil Scott
Ware, Kenneth E.
Warner, Joseph David
Warner, William Scott
Warren, John Michael
Warshaw, Leon
Wascoe, Daniel F.

Waskowitz, Charlotte Hedwiz
Waterhouse, Ian Kellie
Waters, Harry Junior
Weatherhead, Sidney Warren
Wechsler, Ruth Reiser
Weinick, Howard Milton
Weintraub, Irwin George
Weiss, Henry H.
Welkowitz, Joan H.
Wells, Richard Gillis
Wells, William DeWitt
Welsh, George Byron
Wenar, Charles
Wenig, Phillip Wayne
Werner, Donald Sebastian
Westen, Norma P.
Westhafer, Francis LaVergne
Wheeler, John Ingraham, Jr.
White, Robert Thomas
Whitesel, John Asbury
Whiting, Joseph Frank
Whitlam, Marjorie M.
Whitman, Evelyn Busch
Whittaker, James Oliver
Whittenburg, John Allen
Whitton, Carl Thomas
Wiefels, Frank Leonard
Wiens, Arthur N.
Wiggins, Jack Gillmore, Jr.
Wilbanks, William Allen
Wilcox, Elba Jack
Wilcox, George Tavender
Wilkins, James Ward, Jr.
Williams, Douglas Freeman
Williams, Harold Leroy
Williams, Milton Hugh, Jr.
Williams, Robert John
Willis, Marlan Paul
Wilner, Milton
Wilson, John Carroll
Winer, Harold Robert
Wisotsky, Morris
Wittert, Edward Mayer
Wittich, John Jacob
Wolf, Alvin
Wolfson, William
Wollaeger, Frederick Robert
Womer, Frank Burton
Woodbury, Charles Augustus, Jr.
Woolman, Myron
Wright, William Thomas, Jr.
Wulff, John Jepson

Yates, J. W.
Yeya, Teruko
Yocom, Ralph Linwood
Young, Albert Thomas, Jr.
Youniss, Richard Paul
Yudelowitz, Irving S.

Zabarenko, Lucy Braider
Zamansky, Harold Seymour
Zebell, Chester Ralph
Zeleny, Charles Ellingson
Zeleny, Marjorie Pfeiffer
Zeligs, Rose
Zimmerman, Henry George
Zimrot, Efraim S.
Zolik, Edwin Stanislaus
Zucker, Karl Bruce
Zuckerman, Marvin
Zweibelson, Irving

Comment

The Interest in the Practice of Psychotherapy

In looking through the 1951 APA Directory, I was struck by the frequent mention of a special interest in some aspect of psychotherapy. It seemed to me that this situation was very different from what it would have been a number of years ago. It occurred to me that in this listing of major interests in psychology, as given in an unstructured way by each APA member, we might have a useful tool for investigating the extent of interest in this relatively new field. Perhaps we could even discover something about the changes which are taking place over the years in the degree to which psychologists are finding major personal involvement in this field.

With this thought in mind, an analysis was made of a sizable sampling of both the 1948 and 1951 APA Directories.[1] The purpose of this article is to report the results of this analysis.

Method. For both the 1948 and 1951 APA Directories, each psychologist was given the opportunity to list, in his own terms, his major field or fields of interest in psychology. This is given at the conclusion of each biographical sketch, and characteristically includes from one to four areas of special interest. It is this statement which was used in making the analysis to be reported.

An attempt was made to sort out those items in this listing of interests which indicated a major interest in some aspects of the *practice* of psychotherapy, since this is an area which has given the profession much concern. Thus, such listings as "treatment techniques in child therapy," "parent counseling," "counseling with college students" were included in the group categorized as interested in the practice of psychotherapy. Where the phrase was very general, such as "child guidance," or "interviewing," the psychologist was categorized as not having a special interest in psychotherapy, since such interest was not clearly indicated, though it might, of course, be present. Also excluded were listings which seemed to imply only a research or armchair interest in psychotherapy such as "application of learning theory to psychotherapy," "techniques of assessing therapeutic methods" and the like. Undoubtedly some of these individuals are concerned with the practice of psychotherapy, but since this interest was not specifically stated, they were excluded. The full list of statements included, and the peripheral statements excluded are given below, in order to be of assistance in understanding the findings.

[1] Mr. Richard Farson assisted in this study.

Categories. Psychologists who gave one of the following as a statement of one of their major interests, were categorized as having an interest in the practice of psychotherapy:

analytic group therapy; adjustment counseling; child therapy; client-centered therapy; clinical therapy; college counseling; counseling; counseling practices; counseling procedures; counseling process; counseling techniques; counseling the physically and mentally handicapped; counseling tools and techniques; counseling with college students; diagnosis and treatment of problem children; employee counseling in industry; group therapy; group therapy for children; hypnotherapy; individual therapy; marriage consultation; marriage counseling; nondirective technique; parent counseling; play therapy; psychoanalytic psychotherapy; psychoanalysis; psychiatry (counseling); psychodrama; psychotherapy; psychotherapy methods; psychotherapeutic techniques; psychotherapeutic techniques for dealing with problem personalities; student counseling; techniques of general clinical counseling; techniques in psychotherapy and guidance; therapeutic systems; therapeutic techniques; therapy; treatment methods; treatment of psychoneuroses; treatment techniques in child therapy.

The judgment was made that psychologists had *not* indicated a specific interest in the practice of psychotherapy when they listed such items as these among their major interests:

application of learning theory to psychotherapy; basis of therapeutic improvement; child guidance; clinical interview; development of therapeutic techniques; educational counseling; evaluation of counseling; evaluation of group psychotherapeutic techniques; evaluation of psychotherapy; experimental studies in psychotherapy; guidance; hypnosis; interests and character of counselors; interviewing; interviews; mental hygiene; personality changes in psychotherapy; remedial work; research and methods in psychotherapy; research in psychotherapy; techniques of assessing therapeutic methods; vocational counseling; vocational counseling techniques.

All other major interests given were judged as not indicating a specific interest in the practice of psychotherapy.

As will be seen from the figures that follow, nearly 26% of the psychologists fail to give the information which would form the basis of categorization. A large number of these give no biographical information, and the others give the biographical information but do not list their special interests. There is no way of knowing whether the lack of data on one-fourth of the group biases the findings. This group may be randomly distributed or there may be selective factors at work.

TABLE 1

Psychologists showing interest in psychotherapy

	1948		1951	
	No.	%	No.	%
Interested in practice of psychotherapy	88	23.5%	236	28.3%
Not interested	286	76.5%	597	71.7%
Total giving information	374	100%	833	100%
No information available	116		304	
Total sample	490		1137	

Sampling. A sample of approximately 500 was first obtained by taking all the psychologists on every tenth page in the 1948 Directory. A similar sample was obtained by taking every 15th page (page 1, 15, 30, etc.) in the 1951 Directory. When it appeared that there might be value in studying subdivisions of the 1951 sample this group was doubled (by taking pp. 8, 23, 38, etc.).

Findings. The findings are presented in three tables. Table 1 indicates that of those stating their fields of interest in psychology 23.5% of the 1948 group and 28.3% of the 1951 group expressed as of major concern to them some phase of the practice of psychotherapy.

In Table 2 the material from the 1951 sample is broken down in terms of the age of the psychologist. There appears to be a clear though slightly irregular trend for the interest in psychotherapy to be definitely more frequent among the younger members, with approximately one-third of all those members born since 1915 having a major interest in the practice of psychotherapy.

It is, of course, of interest to know the total number of psychologists in the APA having this major interest, and Table 3 provides an estimate. This estimate is tentative for two reasons. For 1948 and 1951 it is the number which is predicted by our respective samples, but is not based on the analysis of the whole membership. The total membership as of January, 1952 is also given and an estimate of the interested group is made, using the percentage gained from the 1951 sample. The data from Tables 1 and 2 indicate that the percentage would in all probability be higher in 1952, and this estimate is therefore to be taken as a minimum figure.

TABLE 2

Changing expression of interest in psychotherapy with age
(Omitting those who gave no information)

Birth Date	Interest	No Interest	% Showing Interest	% Showing No Interest
Prior to 1895	8	48	14.3	85.7
1895–1899	11	34	24.4	75.6
1900–1904	16	59	21.3	78.7
1905–1909	23	76	23.2	76.8
1910–1914	46	103	30.9	69.1
1915–1919	56	106	34.6	65.4
1920–1924	61	133	31.4	68.6
1925–1929	14	26	35.0	65.0

The figures in Table 3 are somewhat surprising since they bring together two strong trends—the rapid growth of the number of all psychologists, and the increasing number of psychologists interested in the practice of psychotherapy. Hence we discover that in the four-year period from 1948 to 1952 the number of APA members with a major interest in psychotherapy increased from less than 1,200 to more than 2,800, this being a conservative estimate. This latter figure is more than twice as large as any existing division of the APA.

TABLE 3

Total membership showing interest
(As predicted by sample)

	1948	1951	1952
Total membership	5047	8554	9950
% of sample showing interest in psychotherapy	23.5%	28.3%	28.3%*
Total number interested in psychotherapy	1186	2421	2816

* Using percentage derived from 1951 yearbook, which is possibly too low to represent the true picture in 1952.

The implications of the findings. We may conclude from the above that two out of seven APA members have, as one of their fields of special interest in psychology, some phase of the practice of psychotherapy as operationally defined in this study.

We may also conclude that among the members born since 1915 (who constitute nearly half of the membership) one out of three has an interest in the practice of psychotherapy.

What general meanings do these facts seem to have? Certain possibilities may be suggested.

In the first place it is clear that this interest cuts across a number of different divisions in the APA. One wonders whether any other general interest, such as interest in tests and measurements, in learning theory, or in perception would be any more pervasive in cutting across divisional lines. It would seem to mean that an interest in the broad area of psychotherapy—the alteration of human behavior through interpersonal relationships—may well become a powerful influence for integration and unity among psychologists working in different fields.

It also appears likely that with one-third of the younger members of the profession interested in this

field, an increasing number of hypotheses, theories, and researches will grow out of the work of those who are dealing with the dynamics of personality in a close interpersonal relationship.

The findings which have been given also suggest the answers to several questions which have been perplexing both psychologists and members of related professions. Let us look at three of these.

1. Will psychologists carry on the practice of psychotherapy as part of their general professional enterprise? The prospect that the profession might not carry on an activity which is a major interest of one-third of its younger members, is unthinkable.

2. Will psychologists be able to obtain adequate training in psychotherapy? When more than one-fourth of the total profession are interested in a field of endeavor, and this interest is even stronger among the younger members, the question as to whether adequate training will be provided is largely academic. Adequate preparation may be slow in coming, or it may not; the steps in the direction of providing it may prove very difficult or may not; but when the interest is so great the ultimate answer is positive, and the only question is one of time. Sooner or later the basic courses, the practicum experience, the supervised internships, will be provided. And, in spite of the usual cultural lag, it is probably only a matter of time until psychology journals and texts give a reasonable proportion of their space to this field. The adequacy of training will almost certainly grow with the increasing adequacy and depth of experience in psychotherapy.

3. Will training in psychotherapy be provided primarily at the postdoctoral level, as was suggested at the Boulder conference? I believe these facts make it highly unlikely. Faculty members teach those things in which they have an interest, and as present faculty members are replaced by younger men, it is clear that many of them will be teaching some phase of counseling or psychotherapy to their predoctoral students. The same forces will operate among students. The prospect that one-third (or possibly more) of the students will put off learning one of the fields in which they have a major interest until after they have completed their formal professional training is most unlikely. What the timing may be, it is very difficult to predict. The simple facts from the Directory indicate however one of the directions in which the profession is moving, and our predoctoral professional preparation will in time reflect this trend.

There are other implications in this material which the reader is at liberty to develop for himself. One concluding comment might be made. The growing interest in psychotherapy among psychologists has often been pointed to with alarm, by individuals inside and outside the profession. But if for a moment we lay aside the natural resistance of a professional group to any sort of change, and if we also disregard for the moment the difficult, but certainly temporary, problems of interprofessional relationship which are created by this trend, what remains? There seems to be basically one element of lasting significance for the science and profession of psychology. It is that psychologists will develop their hunches, their theories, their concepts, their research projects, not only from knowledge of animals and laboratory subjects, but from intimate contact with the psychological dynamics of individual human beings in a process of change. One can only ask with the man in the street, "Is this bad?"

CARL R. ROGERS
University of Chicago

Analysis of Industrial Psychology Courses

Sometime ago I made an analysis of the graduate courses in psychology in 65 colleges that offer the doctorate in psychology. I thought it would be interesting and valuable to apply the results of my study to the 32 colleges that claim to give "reasonably complete" graduate training for the doctorate in industrial psychology as reported by Helen M. Wolfle in the January, 1951, issue of the *American Psychologist*. My main objective was to compare the course offering of these 32 colleges with the median course offering of all of the 65 colleges. Unfortunately, my original study did not include Carnegie Institute of Technology and Illinois Institute of Technology; so this study is limited to only 30 of the 32 colleges.

In my original study, I assumed that a college offering the doctorate in industrial psychology should give adequate training in five areas—industrial, statistics, psychometrics, research methodology, and guidance. This assumption was made mainly upon my own experience as an industrial psychologist in industry and government. It has been my experience that industry expects the industrial psychologist to have specific knowledge of such personnel procedures as job analysis and evaluation, interviewing procedures, merit rating, employee attitude surveys, etc. in addition to having an adequate background in basic psychology. Also the industrial psychologist is usually looked upon as the top personnel research man in his company and, therefore, should know how to design and plan his research and should know how to apply the appropriate statistical techniques to his data.

For the purposes of the present study I dropped the guidance area. Table 1 shows the results of my study. Column 7 of this table is probably the most informative in that it shows the total number of semester credits offered in 1950–1951 in the four areas—industrial psychology, statistics, psychometrics, and research meth-

TABLE 1

Course offerings in thirty colleges in which "reasonably complete" graduate training in industrial psychology was offered for the doctorate

Institution	Industrial*		Statistics	Psychometrics**	Research Meth.	Total, Cols. 2–4	23 Basic Courses	Ratings on Total Course Offerings	
	Sem. Hrs.§	Rank Order in Indus.	Sem. Hrs.	Sem. Hrs.	Sem. Hrs.	Sem. Hrs.		Sem. Hrs.	Rank Order
1. Western Reserve U.	33	4.5	6	27†	9	75	45	44	2.5
2. Michigan, U. of	23	7	8	27	13	71	78	48	1
3. Penn. State Coll.	38	1	6	25	1	70	60	42	6
4. Maryland, U. of	33	4.5	9	27	—	69	51	39	10
5. Purdue U.	37	2	15	12	4	68	47	43	4
6. California, U. of (Los Angeles)	34	3	—	25	5	64	90	44	2.5
7. Washington U. (St. Louis)	18	14.5	14	21	—	53	84	38	11.5
8. Washington U. (Seattle)	22	8	11	17	3	53	70	42	6
9. California, U. of (Berkeley)	20	10.5	—	22	10	52	89	40	9
10. New York U.	30	6	6	15	—	51	75	36	15
11. Ohio State U.	21	9	16	10	3	50	85	41	8
12. Houston, U. of	9	27	6	27†	6	48	61	36	15
13. Iowa, State U. of	14	21	19	13	2	48	71	37	13
14. Northwestern	18	14.5	9	18	3	48	49	36	15
15. Southern Cal., U. of	14	21	7	24	3	48	36	33	18
16. Wisconsin, U. of	20	10.5	9	14	3	43	100	42	6
17. Tulane U.	18	14.5	9	12‡	3	42	84	38	11.5
18. Utah, U. of	15	18.5	9	15	3	42	59	35	17
19. N. Carolina, U. of	10	26	10	20	—	40	67	31	22
20. Stanford U.	19	12	6	13	2	40	52	32	20
21. Illinois, U. of	18	14.5	3	15	—	36	50	26	27.5
22. Kansas, U. of	12	24.5	3	18‡	3	36	70	32	20
23. Penn., U. of	13	23	8	14	4	33	42	32	20
24. Louisiana State U.	12	24.5	6	9†	—	27	57	24	29
25. Rochester, U. of	6	29	6	9	6	27	66	30	24
26. Syracuse U.	15	18.5	3	6†	3	27	72	30	24
27. Minnesota, U. of	14	21	1	10	1	26	63	26	27.5
28. Columbia U.	6	29	3	6	6	21	84	29	26
29. Cornell U.	16	17	6	6	3	17	60	30	24
30. Johns Hopkins U.	6	29	4	3†	—	13	66	20	30
Medians¶	12		6	15	3	36	60	31	

* Doctoral and master's in industrial training offered by all 30 colleges.
** Doctoral and master's training in psychometrics offered unless entry is marked † or ‡.
† Master's training only.
‡ No information about degrees.
§ All quarter-hour courses reduced to equivalent semester hours.
¶ Medians based on distribution of courses in 65 PhD-granting institutions.

odology. The colleges are arranged in the order of the semester credits found in this column. It was found that 22 or 73.3 per cent of the 30 colleges are at median or better with respect to their combined offering in these four areas when compared with the course offering in these four areas of the total number of 65 colleges. Column 2 of the table shows that 25 or 83.3 per cent of the colleges give median or better offering in industrial psychology. Column 4 indicates that 22 or 73.3 per cent give median or better training in statistics. Column 5 indicates that 16 or 56.3 per cent offer median or better training in psychometrics. Column 6 shows that 19 or 63.3 per cent are median or better in their offering in formal research methods courses. Column 8 shows how these 30 colleges rate in their offering in 23 subcategories of basic courses. It can be observed that 20 or 66.67 per cent give median or better training in this area. Finally, Column 9 shows that 22 or 73.3 per cent are at median or better on their total course offering.

In my original study, I rated all of the 65 colleges on their course offering in five areas, namely, basic, indus-

trial, statistics, psychometrics, and research methodology. I rated each of the five areas, except industrial psychology, on a 10-point scale. Industrial psychology was rated on a 20-point scale. The scale points on each scale were derived from the percentile distribution of the semester points in each area. For example, the industrial course offering of each of the 65 colleges was rated on a 20-point scale in which the 85th percentile of the industrial course distribution was assigned sixteen points, the 65th twelve points, the 50th ten points, the 35th eight points, and the 15th percentile four points. The total rating for each college was obtained by adding the five ratings for the five areas. These total ratings for the 30 colleges that claim "reasonably complete" program for the doctorate in industrial psychology are listed in Column 9 of the table.

I would recommend that anyone interested in the graduate training facilities of a college for the doctorate in industrial psychology should especially consult Columns 6 and 8 of the table.

It seems to me that it would be safe to draw one conclusion from these data, namely, that a great majority of the 30 colleges whose chairmen consider their program as "reasonably complete" for doctoral training in industrial psychology have better than average course offerings in the industrial, statistics, psychometrics, research methodology, and basic psychology areas.

ADAM PORUBEN, JR.
New York, N. Y.

Necessity for Publicly Supported Psychological Clinics

With reference to the problem of fees for psychologists in private practice, the experience of a college psychological clinic in a small community may point up a few factors.

Our bureau, in addition to its regular responsibilities to the parent institution, sees about 100 cases from the community each year. A typical case is that of a ten-year-old girl who was referred by a local MD. He had examined her, for a fee of approximately thirty dollars, and could find nothing physically wrong. In the college clinic she was given the Stanford-Binet, a cursory Rorschach, selected TAT cards, the MAPS test, and the Blacky test. Diagnosis was made, a parents' conference was held, and a report was sent to the physician.

A conservative estimate of the fees for such service by a private clinician would range from seventy-five to one hundred dollars. The services cost the girl's parents nothing, and cost the college about forty dollars in salaries for the student-psychometrist and the psychologist in charge. While the girl's parents might have been able to pay the actual cost to the college, they certainly could not have managed the full fee a private psychologist must necessarily charge for such service.

It has been estimated that the psychological services of this college bureau could be increased 500 per cent if time and funds were available. Certainly, this points to the necessity for publicly supported, or partially supported, psychological clinics rather than the unavoidably high-priced private clinician.

ALEXANDER MILTON
Bureau of Research
Western Washington College

Psychologist, Know Thyself!

The provocative and altogether delightful informal essay on the sociology of psychology by the Executive Secretary (*Amer. Psychologist*, 1952, 7, 83–85) testifies to a widely felt need among American psychologists to rediscover their own field. The profession seems to be a bit dazzled by its successive bursts of quantitative growth during the past decade, but this quantitative phenomenon is only a by-product. The real source of the need to rediscover psychology is the increasing demand for psychological services by ever-growing governmental and other public enterprises which seem to be operating under the oddly mated slogans of "total human welfare" and "total military efficiency." Dr. Sanford's contention that the probable lines of further professional development should be charted with reference to the amoeba-like entity or Lewinische field of our total social order seems eminently sensible, but two or three questions, chiefly semantical in character, do come to mind.

In one sense, any organized body of scientists is just a part of the total social field. But in another sense the true homeland of the truth-seeker is only that actuality which he encounters. However much perceptions are socially determined (and I am sure that the degree is a great one), we must recognize that, through the actual encounters of science with its cosmos, social ideas and personal perceptual sets are also changed. First of all, however, privately personal ideas are changed, and no less by aesthetic than by scientific encounters. The functional significance of personal world-views, it seems to me, is that each individual who is ideationally motivated by such a world-view thereby transcends, behaviorally, his membership-character within the secular social order. In other words, no man with a functional world-view behaves wholly like a social functionary.

To be sure, Dr. Sanford stresses the doctrine that the social field or amoebalike entity of midtwentieth century America "encourages" individuality. That field is said to be dense with quasi-autonomous centers of action. If any statement ever called for semantic clarifi-

cation, this one does. The moral autonomy of American citizens today is by no means obvious to critics in many of the other democracies, including France and even the English-speaking nations. Ask any exchange scholar what the impression abroad is at present. We are familiar with the talk, the very sincere talk, in contemporary American education about "adjustment to a changing world." We are not aware that fundamental appraisal of trends within the social order is encouraged, or could easily be encouraged under the present circumstances of the increasing polarization of mankind. Of course, one would prefer being a self-adjusting cog in the machine (to change the figure of speech) to being a commissar-adjusted cog. I wonder, however, whether the Executive Secretary would contend that the self-adjustment of loyal functionaries is the same as the autonomy of ethically concerned, trend-judging citizens. Even while the amoeboidal entity does, as he points out, increase the nourishment for psychometrics, superficial psychotherapy, and human relations programs in industry and the armed forces, it limits nourishment for pure personality theory and pure sociology, and cuts off nourishment for value-oriented philosophy of personality and of society. Rather than encouraging personal autonomy in any full sense, the entity seems to encourage the myth of the self-justifying social machine, or rather the myth of the total rightness of one of the poles of a split personality.

There remain those who still look for sanctions elsewhere (perhaps they look "within" as this inner world of personality tries to answer to its widest and deepest matrix) and, in a word, still resist being polarized. I do not even believe that most American men of science as yet think of themselves as pure functionaries of an amoeboidal entity with a split personality. But there are many roads toward such a moral debacle, and those cool-headed ones who encourage us to think like mere functionaries are allied, quite paradoxically, with those hot-heads who would promote mass hysterias. I do not accuse our Executive Secretary of belonging to that particular cool-headed group, for he has requested "American psychology" to appraise its prospects, functionally, and not just to take itself for granted.

I think he would agree that knowledge of the amoeboidal entity should culminate in a clinical interpretation of its own tensions. The necessity of adjusting to the field and the desirability of changing the field in order to facilitate more abundant personal living are by no means mutually contradictory. Ethically oriented adjustments are usually active, rather than being like those of the complacent functionary.

Man is the error-appraising, hence self-correcting animal. Methodology is possible only if the reasons for error be defined, rather than each error's being overcome by blind trial-and-error action. To understand fully the amoeboidal entity would include recognizing the points at which its structure is constituted by active ignorance. Actual functioning is not the measure of truth, but rather truth is the basis for improvement of functioning in the direction of the fulfillment of the values of free persons.

To sum up, while we agree that organismal and field-theoretical constructs may help us appraise the prospects of any profession, we deny that the trends which are found to prevail within the limits of any field in any sense legislate the aims of a profession. Psychology must correct error-based motivations at whatever level of power or of "sanctity" they happen to be found. To be an ethical person has as part of its intrinsic meaning the will to resist the invitation of the beast or amoeboidal entity or Lewinische field or self-justifying social machine (let each choose his own symbol) to fall down and worship it. The job of psychology is to criticize and improve the social order on every level of its functioning, rather than to adjust passively to some trends in order to grow fat on the pay for lower-level jobs.

ROBERT F. CREEGAN
Ohio University

Across the Secretary's Desk

Psychology and the Law

On November 28 and 29 a special Committee of the American Association of Law Schools held a conference devoted to a discussion of psychological aspects of the law. The AALS is apparently seriously and concretely interested in feasible steps to bring the psychologist's skills and insights to bear on not only the form and content of legal training but also on the legal process itself. Topics discussed at the conference varied in level from that of delineating psychological assumptions underlying modern law to the psychological validity of the judge's intuitive convictions concerning a witness's credibility. In content the discussion ranged from the psychology of juries and the psychology of judges to the potential value of psychology courses for law students and current methods of grading students' performance.

The conference was attended by seven teachers of law in various universities, by Dr. Alan Gregg of the Rockefeller Foundation, by four psychiatrists and three psychologists (Wayne Dennis, Albert Pepitone, and Fillmore H. Sanford). From the psychologist's point of view it was an enlightened, productive, and humbling conference. It was enlightened because the lawyers were very bright, very articulate, and relatively very well informed about psychology. For example, they knew the difference between social, educational, and clinical psychologists; and many of them were able to talk well about the design of research. It was productive in that people—perhaps especially the psychologists—learned a great deal and seemed to get new and creative ideas about things. It was humbling—again especially for psychologists—because of the obvious fact that neither psychology nor psychiatry has anything approximating answers for the wide variety of problems the lawyers describe with skill, realism, and fervor. We might quote psychoanalytic theory or teach courses or extrapolate with great and necessary timidity from relevant areas of research, but the most and best we can offer is research—research on selection and training of lawyers, research on the decision-making process in juries, research on the public perception of the law and of lawyers, research on the intricate problem of deterrence. The lawyers—at least the ones at this conference—seem ready to accept psychologists as research people and as teachers who might contribute to the general education of the lawyer. On this basis, lawyers and psychologists can establish a sound and mutually profitable collaboration. They probably will.

The New Building

If history wants to bother, it will probably be able to record that the *American Psychologist* containing this paragraph was among the first APA mail to be delivered to 1333 Sixteenth Street N.W., Washington, D. C.

On the first of September we were assured by our architect and our contractor that we could move into the new building on October 15. Having been taught during the preceding months some degree of skepticism about such estimates, the House Committee advised the Central Office to plan on a November first exodus. By October 15, the plans were revised by a month. By November 15, another month had to be added. By early December we could see evidence that we were actually gaining on the moving date. Everybody is now neurotically skeptical about everything, but at the time of the present writing (December 10) we have nervously fixed upon December 30 as the date of occupancy.

The whole process has gone slowly and expensively, but, to accent the positive, which seems to be the only orientation conducive to the maintenance of sanity in such an operation, it will be a handsome and comfortable building. Psychologists who have seen it recently seem unanimously to feel a very marked and proper pride of ownership.

There ought to be some way the building could be taken on tour so that all members of the Association could have the opportunity to engage in some appropriate and compatible housewarming activity. Short of that, we here hope we can have a celebration for all psychologists in the Washington area. And we think we probably should have another fancy affair for the nonpsychological people in Washington with whom psychology and psychologists are involved in one way or another. This would be our way of gently telling Washington that

psychology, as science and profession, is firmly established as part of the national scene.

The Committee on the Building Fund met on November 20, elected George Bennett chairman, and made preliminary plans for raising money to pay for our property. It seems likely that a general appeal to all APA members will be made in the spring, after their taxes are paid and before summer peregrinations begin. Meanwhile, spontaneous contributions are coming in. Nobody seems inclined to send these back to their donors. We have received a total of about $4,000, including $1,000 from the Midwestern Psychological Association, to be used to purchase a conference table, appropriately labeled, for the Board room.

In accordance with the vote of the Council of Representatives, space has been reserved in the building for a library of psychological journals. So far we have all our own journals ready to go into the library and have received a gift from E. G. Boring of 34 bound volumes of a non-APA journal. Other than that, we have a good supply of bare shelves and a reading room naked of furniture.

1953 Journal Subscriptions

For some years there has been a gradual decline in the percentage of our members who subscribe to those APA journals that are not distributed "automatically" to all members. Apparently this decline will accelerate in 1953. In order to check on the trend for the coming year, we pulled out 125 random record cards for members who have paid their dues and entered their subscriptions for the year. Seventy-four of these members voluntarily subscribed to no journals in either 1951 or 1952. Eighty-eight subscribe to no journals for 1953. Of the 51 who subscribed to at least one journal in 1952, seven subscribed to more in 1953, 27 to the same number and 17 to fewer. Of the 37 out of the 125 who subscribe to one or more journals in 1953, only eight subscribe to all the journals (Club A) while 12 subscribe to only one. The 125 members subscribe to less than one journal apiece.

If these facts are substantiated when we analyze the journal buying of the whole membership, they will raise some serious questions. Some will want to worry about the reading habits and the general level of scholarship among APA members. Others will regard it very sad that so small a proportion of our members support, through subscription, APA efforts to forward scientific publication. Those concerned with the APA budget can probably start worrying now about the very real financial implications of these facts. It seems clear that an appreciable number of members are reacting to increased dues and increased subscription prices by dropping journals.

New Associates

In the last half of 1952 the Membership Committee, with the help of Jane Hildreth, examined 1,354 applicants for Associate membership in APA. Of this number, 1,205 were recommended to the Board and were elected. They became APA members on January 1, 1953. The 1,205 figure compares with 1,426 for 1952 and 1,370 for 1951. Thus our rate of increase slackens somewhat, but at the moment we are still headed for a membership of 60,000,000 a hundred years from now.

On November 30, 1952 our membership was 9,881. Of this number 1,536 were Fellows, 8,260 Associates, and 85 Life Members. The addition of 1,205 new members will give us 9,465 Associates and a total membership, barring deaths and resignations, of 11,086.

FILLMORE H. SANFORD

New APA Address and Telephone Number

Address: 1333 Sixteenth Street N.W.
Washington 6, D. C.

Telephone number: Columbia 5-0595

Psychological Notes and News

L. William Johnson died of a heart attack on September 4, 1952 at the age of 48. He was school psychologist at the Maumee (Ohio) Valley Country Day School.

C. D. Keet died at Johannesburg, South Africa in October, 1952 after a long illness. He was 55 years old.

John L. Stenquist, director of the Bureau of Measurement, Statistics, and Research, of the Baltimore Department of Education, died November 8, 1952. He was 67 years old.

A. R. Gilliland, professor of psychology at Northwestern University, died of a heart ailment on November 30, 1952 at the age of 65.

Robert I. Watson, associate professor of psychology and assistant dean of the Medical School at Washington University, has joined the faculty of Northwestern University as professor of psychology. Professor Watson will teach and also will direct the graduate training program in clinical psychology.

Herbert S. Conrad has been appointed a consultant of the Public Advisory Board for Mutual Security to survey and appraise program-operations in the Mutual Security Agency. Other members of the survey team include an economist, a political scientist, and an engineer. The project is under the immediate direction of Kenneth L. Heaton.

Thelma G. Alper, formerly of Clark University, was appointed associate professor of psychology at Wellesley College, effective September 1, 1952. During the first semester of the academic year she has continued to teach one course at Clark, with the title of visiting lecturer.

Joel T. Campbell was appointed assistant director of Western Reserve University's Personnel Research Institute. He had been a research psychologist with the Personnel Research Section of the Adjutant General's Office, Department of the Army, since 1948. At PRI he will supervise all government research projects.

Paul R. Dingman left Brattleboro Retreat to take up duties as director of the Des Moines Child Guidance Center on November 15. **Robert Gorell** of Boston VA Hospital and Clark University, came to the Retreat on December 1 as chief psychologist. Current interns at the Retreat are Hugh Urban of Pennsylvania State College and Charles Kreitl of Catholic University.

Horacio J. A. Rimoldi, formerly director of the psychological laboratory of the University of Uruguay, has been appointed research associate at Educational Testing Service, Princeton, New Jersey.

Joseph Levi, formerly chief clinical psychologist of the VA Hospital, Bronx, New York, has completed a three-year research study on "Psychiatric Aspects of Rehabilitation," a grant from the Commonwealth Fund. He was appointed to teach projective techniques at the Yeshiva University. He will also conduct advanced courses in the Rorschach technique.

Fred Brown has been appointed adjunct professor of psychology, New York University, School of Liberal Arts and Sciences, New York City.

Rohrer, Hibler & Replogle announces the following appointments to their staff effective November 1, 1952: **James W. Rohrer,** to their New York regional office; **Dilman J. Doland** to their Cleveland office; and **Earl E. Swartzlander** to their Atlanta regional office.

Henry A. Imus has completed a year's service as scientific liaison officer in the field of psychology, London Branch of the Office of Naval Research, and has returned to his duties as head of the Physiological Psychology Branch, Psychological Sciences Division, Office of Naval Research in Washington, D. C.

Mungo Miller is currently in the State Department Exchange Program in Germany as an expert in public opinion methods and findings. He is visiting German opinion and market research agencies and universities to talk about recent work in this field.

William B. Haber has been appointed clinical psychologist on the psychiatry service at the Hospital for Joint Diseases, New York City.

Henry J. Zagorski was appointed staff assistant with the Chesapeake and Ohio Railway Company, Cleveland, Ohio, effective November 6, 1952.

Victor H. Denenberg is now working as a research associate for HumRRO at Army Field Forces Human Research Unit No. 1, Fort Knox, Kentucky.

Robert L. McFarland has recently been appointed research and administrative associate, Clinical Psychology Service, VA Hospital, Palo Alto, California. He was formerly assistant director of research and psychology, Psychiatric Institute of the Municipal Court, Chicago, Illinois.

Harry Beilin, formerly associated with Teachers College, Columbia University and other New York State institutions, has been named head of the guidance and counseling program at the University of Connecticut. He takes the place of DWane Collins, now on leave to direct the guidance and personnel program for the Brazilian government and the Aeronautical School in Sao Jose de Compos.

Harold Kenneth Fink has transferred his psychoanalytic offices to La Jolla, California, and has accepted a place on the staff of the Balmer School, La Jolla's nursery school.

Sidney J. Fields has joined the staff of the department of psychiatry of the University of Arkansas School of Medicine as instructor in clinical psychology. **Marguerite Kyer** is employed as assistant, and **Edmond F. Erwin** continues as assistant professor and administrative director of the department, which is headed by William G. Reese, M.D., psychiatrist, formerly at The Johns Hopkins University.

George F. Cassidy, formerly assistant clinical psychologist at St. Vincent's Hospital, New York City is now clinical psychologist at St. Vincent's Retreat, Harrison, New York.

Herman D. Behrens resigned his position as professor of education, the State Teachers College, Geneseo, New York, and accepted the position of professor of education in charge of human development at the State University Teachers College, Oneonta, New York. This change became effective September 1, 1952.

The U. S. Naval School of Aviation Medicine, Pensacola, Florida, has announced several recent personnel changes. **Comdr. Alan D. Grinsted,** MSC, USN, has left the School of Aviation Medicine to replace **Comdr. Verne Lyon,** MSC, USN, as coordinator of research for the Chief of Naval Air Training, Pensacola, Florida. Comdr. Lyon replaced **Lt. Joseph F. Snyder** as head of the Aviation Psychology Branch, Division of Aviation Medicine, Bureau of Medicine and Surgery, Department of the Navy, in Washington, D. C. Lt. Snyder has assumed duties in the research laboratory at the School of Aviation Medicine. **Lt. Comdr. William F. Madden,** MSC, USN, has replaced Comdr. Grinsted as assistant director of research at the School. **Lt. (jg) Edwin P. Hollander,** MSC, USNR, has returned to the psychology laboratory at the School of Aviation Medicine after a tour of duty at Columbia University where he completed his doctoral degree.

Herbert S. Conrad has recently been elected chairman of the APA's Council of Editors.

The list of officers of the Division on Maturity and Old Age, published in the November *American Psychologist,* should have included the name of **Ross A. McFarland** as a Member-at-large of the Executive Committee for the term 1951–54. **Robert J. Havighurst,** who is also a Member-at-large of the Executive Committee, was elected for the term 1952–55.

The U. S. Naval Personnel Research Unit (NavPRU), San Diego, was recently established by the Bureau of Naval Personnel to provide research facilities for fleet installations. The Unit has announced the appointment of the following psychologists to its staff. **Edmund E. Dudek,** formerly with University of Washington, is the chief scientist. **Leonard V. Gordon,** formerly with University of New Mexico, is head of the Classification Research Branch; **Kenneth W. Eells,** formerly with San Diego State College, is head of the Classification Research Section. In the Training Research Branch, **Earl I. Jones,** formerly with HRRC, Lackland Air Force Base, is head of the Training Requirements Section; and **Herman**

Roemmich, formerly with the Naval Electronics Laboratory, is head of the Training Evaluation Section. **Albert B. Chalupsky,** formerly with Purdue University, has been appointed project director in the Occupational Research Branch. Military personnel assigned to NavPRU include **Lt. (jg) James S. Ford,** formerly with University of Southern California; **Lt. (jg) Donald C. Kuhn,** formerly with Ohio State University; and **Lt. (jg) Warren S. Torgersen,** formerly a research associate of the Social Science Research Council.

Psi Chi, national honorary society in psychology, has announced that Anna Y. Martin of New Mexico Highlands University has been appointed for a one-year term as vice-president of the Rocky Mountain Region; and Max Meenes of Howard University has been appointed for a one-year term as vice-president of the Eastern Region.

Emory University announces the establishment of the Psychology Primate Laboratory. The laboratory will occupy air-conditioned quarters especially designed for the housing of primates and the testing of their behavior. These facilities will offer opportunity for staff research and student instruction and research in problems of primate behavior. A. J. Riopelle will be in charge of the laboratory.

The Rye Public Schools, Rye, New York, have initiated a pilot program for **education in human relations and mental health.** The object of this program, of which Kenneth Helfant is director, is to assist teachers, administrators, and other school personnel in applying mental health principles to their jobs with the schools. So far the program has consisted of bimonthly seminars with elementary and high school teachers, a parent education course, and individual consultations with parents and teachers. The eventual goal of the program is to introduce into the curriculum an integrated series of experiences designed to give pupils an increased understanding of their own behavior and the behavior of others.

The American Psychosomatic Society has changed the dates of its coming annual meeting to April 18 and 19, 1953.

The **Society for the Psychological Study of Social Issues** and the **Society for the Study of Social Problems** will hold a joint conference on February 14 and 15 at New York University. The speaker for Saturday evening will be Walter H. C. Laves, former Deputy Director General of Unesco and present chairman of the United States National Commission for Unesco.

The **department of psychology at the University of Nebraska** has announced two symposia on the general topic of "Current Research and Theory in Motivation." These symposia have been made possible through a grant from USPHS. The first symposium will be held on January 15 and 16. Leo J. Postman will read a paper on "Motivation as a Factor in Perception," Harry F. Harlow, on "The Role of Motivation in the Acquisition of New Responses," and Judson S. Brown, on "Learned Drives." The second symposium will be held on March 26 and 27. Vincent Nowlis will read a paper on "The Role of Motivation in Personality Development," O. H. Mowrer, on "Motivation as a Factor in Psychotherapy," and Theodore M. Newcomb, on "Motivation in Social Psychology." On each of the first three half-days of each meeting, one paper will be read and discussed. On the final half-day, the three major participants will take responsibility for leading a general discussion on the papers presented in that meeting. Both meetings will be open to any interested psychologists. Anyone wishing assistance in making hotel or motel reservations should write to Professor Don W. Dysinger, Chairman, Psychology Department, University of Nebraska, Lincoln, Nebraska.

The **department of psychology at the University of Kentucky** is planning a symposium on relationships between learning theory, personality theory, and clinical research. The two-day program scheduled for March 13 and 14, 1953 will feature a number of distinguished specialists in each of the three areas, who will represent their viewpoints by both individual and panel discussions. Additional information may be obtained by writing to Dr. Robert E. Bills, Chairman, Symposium Committee, Department of Psychology, University of Kentucky, Lexington, Kentucky.

The *Journal of Clinical and Experimental Hypnosis,* a quarterly publication of the Society for Clinical and Experimental Hypnosis, is now accepting papers for publication. The journal will publish *only* original research dealing with hypnosis in psychology, psychiatry, medicine, dentistry, and allied behavior sciences. Papers should be submitted to Dr. Milton V. Kline, Editor, 500 Riverdale Avenue, Yonkers, New York.

A number of **graduate and postdoctoral fellowships for research in personality** are offered by the University of Illinois, under a grant from the Ford Foundation. The graduate fellowships ($1,200 for the academic year) afford an opportunity for both course work and association with a member of the staff engaged in personality research. The postdoctoral fellowships ($4,500 a year) offer an opportunity for study and research either independently or in collaboration with staff members in cultural anthropology, education, psychology, and sociology. The program is under an interdisciplinary committee from these fields with Lyle H. Lanier as chairman. Inquiries should be directed to J. McV. Hunt, Department of Psychology, University of Illinois, Urbana, Illinois, as administrative secretary of the program.

The Roscoe B. Jackson Memorial Laboratory offers **two summer research fellowships** in the Division of Behavior Studies for interdisciplinary work in the biological and social sciences. The PhD degree is required, and the stipend is $600 plus an allowance for research expenses. Applications should be sent to Dr. J. P. Scott, Box 847, Bar Harbor, Maine, not later than February 1, 1953.

CURRENT RESEARCH

A program of psychobiological research with three baby lowland gorillas is in progress at the Zoological Garden of San Diego, California. The project, initiated in 1949 soon after the arrival of the gorillas, was carried on for two years at the Hospital-Laboratory of the zoo, and for the past six months has continued in the zoo proper, combining exhibition with research. A diary record of growth and development is being kept, as well as data on performance in specific experimental situations. Joan Morton Kelly, assisted by other members of the zoo staff, is primarily responsible for carrying out the study. Robert M. Yerkes is acting as consultant.

A research project on the **male self-concept during puberty** is being conducted by Walter D. Smith and Dell Lebo of Florida State University, with the cooperation of the Leon County, Florida, Public Schools.

A study of the **meaning of results obtained from opinion surveys** of Ford employees is being carried out by the Ford Motor Company in conjunction with Jay L. Otis, of Western Reserve University, and Elmo Roper. The research plan includes two phases: (*a*) a factor analysis of the relationships of the answers to the many questions in the survey questionnaire, and (*b*) an effort to determine which factors of morale are of greatest importance in determining over-all satisfaction of employees.

The U. S. Naval Personnel Research Unit, San Diego, California has recently initiated several research projects. These projects, with the specific studies and the personnel involved, are listed below.

Analysis of Navy jobs

An analysis of all Navy battle and emergency jobs: A. Chalupsky, P. Athan, and F. S. Dam.

A procedural analysis of antisubmarine equipment maintenance and operation: F. S. Dam.

Development and validation of selection and classification techniques for special Navy billets

Validation of the Navy Radio Code Aptitude test: L. V. Gordon and W. Torgerson.

Development of a test of understanding of relative movement: K. Eells.

Development of a biographical information blank for selection of personnel for specialized training: K. Eells and R. Shirk.

Development of selection and training criteria

Investigation of relationships among aptitudes and school and shipboard measures of sonarman performance: A. V. Anderson.

Evaluation of sonarman performance during sea phase training: W. Torgerson.

Development of a test of underwater target detection and classification: H. Roemmich and J. Ford.

Development of measures of antisubmarine warfare team performance: M. Angell, R. Gavin, and D. Kuhn.

Development of achievement measures for sonar operator and maintenance personnel: A. J. Stauffer and A. V. Anderson.

Evaluation of rating techniques for criterion purposes: A. V. Anderson and L. Swanson.

Determination of training requirements for maintenance of antisubmarine equipment: E. I. Jones.

Development of measures of progress of training: E. I. Jones.

Convention Calendar

American Psychological Association: September 4–9, 1953; Michigan State College
For information write to:
Dr. Fillmore H. Sanford
1333 Sixteenth Street N. W.
Washington 6, D. C.

Ontario Psychological Association: January 30–31, 1953; London, Ontario
For information write to:
Mr. Roy A. Ross
100 St. George St.
Toronto 5, Ontario, Canada

New York State Psychological Association: January 30–31, 1953; New York City
For information write to:
Dr. Percival M. Symonds
Teachers College
Columbia University
New York 27, N. Y.

American Orthopsychiatric Association: February 23–25, 1953; Cleveland, Ohio
For information write to:
Miss Elizabeth Charleton
American Orthopsychiatric Association
303 Lexington Avenue, Room 210
New York 16, N. Y.

Child Study Association of America: March 2–3, 1953; New York, New York
For information write to:
Child Study Association of America
132 East 74th Street
New York 21, New York

Optical Society of America: March 19–31, 1953; New York, New York
For information write to:
Professor Arthur C. Hardy
Room 8–203
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Inter-Society Color Council: March 18, 1953; New York, New York
For information write to:
Mr. Ralph M. Evans
Inter-Society Color Council
Color Control Division, Bldg. #65
Eastman Kodak Company
Rochester 4, New York

American Personnel and Guidance Association: March 29–April 2, 1953; Chicago, Illinois
For information write to:
Executive Secretary
American Personnel and Guidance Association
1534 "O" Street N. W.
Washington 5, D. C.

Southern Society for Philosophy and Psychology: April 3–4, 1953; Austin, Texas
For information write to:
Dr. Oliver L. Lacey
Department of Psychology
University of Alabama
University, Alabama

National Association of Student Personnel Administrators: April 6–9, 1953; East Lansing, Michigan
For information write to:
Dean Tom King
Michigan State College
East Lansing, Michigan

International Council for Exceptional Children: April 8–11, 1953; Boston, Massachusetts
For information write to:
Harley Z. Wooden, Secretary
1201 Sixteenth Street N. W.
Washington 6, D. C.

Illinois Psychological Association: April 11, 1953; Chicago, Illinois
For information write to:
Professor George S. Speer
Institute for Psychological Services
3329 South Federal Street
Chicago 16, Illinois

American Psychosomatic Society: April 18–19, 1953; Atlantic City, New Jersey
For information write to:
Miss Joan K. Erpf
American Psychosomatic Society
551 Madison Avenue
New York 22, New York

Eastern Psychological Association: April 24–25, 1953; Boston, Massachusetts
For information write to:
Dr. G. Gorham Lane
Department of Psychology
University of Delaware
Newark, Delaware

Midwestern Psychological Association: May 1–2, 1953; Chicago, Illinois
For information write to:
Dr. Lee J. Cronbach
Bureau of Research and Service
University of Illinois
1007½ South Wright Street
Champaign, Illinois

American Psychiatric Association: May 4–9, 1953; Los Angeles, California
For information write to:
Dr. Cullen Ward Irish
1930 Wiltshire Boulevard
Los Angeles 5, California

Acoustical Society of America: May 7–9, 1953; Philadelphia, Pennsylvania
For information write to:
Dr. Harry F. Olson
RCA Laboratories
Princeton, New Jersey

Pennsylvania Psychological Association: May 9, 1953; Harrisburg, Pennsylvania
For information write to:
Dr. William U. Snyder
Department of Psychology
Pennsylvania State College
State College, Pennsylvania

American Association on Mental Deficiency: May 12–16, 1953; Los Angeles, California
For information write to:
Dr. Neil A. Dayton
P. O. Box 96
Willimantic, Connecticut

Western Psychological Association: June 18–20, 1953; Seattle, Washington
For information write to:
Dr. Richard Kilby
Department of Psychology
San Jose State College
San Jose, California

Association Internationale de Psychotechnique: July 27–August 1, 1953; Paris
For information write to:
Pr. R. Bonnardel
41, rue Gay-Lussac
Paris 5*, France

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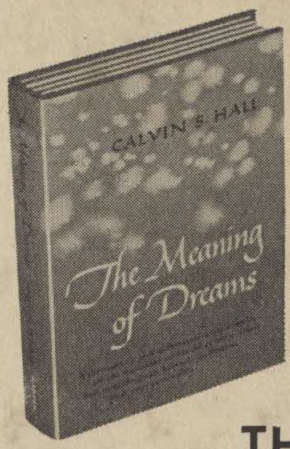
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CALL FOR PAPERS

SIXTY-FIRST ANNUAL CONVENTION OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

Michigan State College, East Lansing, Michigan

Friday, September 4 through Wednesday, September 9, 1953

APA CONVENTION PROGRAM COMMITTEE

LAUNOR F. CARTER, Chairman; O. HOBART MOWRER, *ex officio;* CHARLES N. COFER, GEORGE C. THOMPSON, DONALD M. JOHNSON

THE Convention Program Committee of the American Psychological Association announces a *Call for Papers* for the 1953 convention. No other *Call for Papers* will be distributed. General information about the convention, including room reservation forms, will be published in the April *American Psychologist* and titles of the complete program will be published in the July *American Psychologist.*

Members are urged to read this *Call for Papers* with special care. In attempting to meet an expressed need for some modification in the annual convention, the APA Program Committee has urged divisional program committees to attempt new types of programming. This has required special rules for some divisions (see page 67). The Committee is also planning several procedural changes. The most important is the Committee's decision to set and enforce time quotas by divisions. In view of the rapid expansion of the APA membership and the resultant pressures on convention time, this step seems essential.

A serious attempt is being made to reduce the time between the submission of abstracts and the convention. The deadline for submitting abstracts is April 10, three weeks later than last year's deadline. This change has been accomplished by deciding to publish the program *by title only* in the July *American Psychologist,* and by publishing the abstracts in the August *American Psychologist.*

It may be that some changes will not stand the test of the convention. It is hoped that through experimentation we will evolve a more satisfactory annual meeting.

I. TYPES OF SESSIONS COMPRISING THE 1953 CONVENTION

A. *Individual Reports of Research.* Unless specially arranged by a divisional program committee, four twelve-minute papers will be scheduled for each one-hour session. *Only reports of completed research* (data obtained, analysis completed) will be accepted. Members who wish to participate must submit abstracts of their papers to the appropriate divisional program chairman by April 10. The list of divisional program chairmen will be found on page 68 of this issue. The abstract of a given paper may be submitted to *one division only.* The regulations for abstracts are given on page 64.

B. *Technical and Professional Problems Symposia.* Emphasis should be placed upon specific problems rather than upon broad topics. The APA divisions are invited to propose and organize suitable two-hour symposia on technical or professional problems. Interdivision symposia are especially encouraged. The regulations for symposia are given on page 65.

C. *Addresses.* The APA President will present the annual address. Addresses by divisional presidents may be arranged for by each division. The APA President-elect will arrange for invited addresses by eminent speakers in related fields. Individual members may suggest topics and speakers for invited addresses to the appropriate divisional program committee.

D. *Exhibits.* Arrangements will be made for exhibits. Individual members are encouraged to exhibit apparatus, teaching aids, and other materials of scientific interests. Commercial exhibitors of books, apparatus, films, etc., may request arrange-

ments for space. Both commercial and private exhibitors wishing to make arrangements should write to the Chairman of the Local Arrangements Committee, indicating type of exhibit and approximate space needs.

E. *Business Meetings.* Divisions, boards, committees, etc., of the APA desiring business meetings, should make their needs known to the Chairman of the APA Program Committee. These should include a statement of estimated attendance, time required, and whether arrangements for luncheon and dinner are also desired. In the case of divisions, if the presidential address is to be given at the divisional business meeting, this fact should be included. The deadline for receipt of such communications is May 8.

Other groups, such as special interest groups, university groups, governmental agencies, etc., desiring meeting rooms, luncheon or dinner arrangements, etc., should contact the Chairman of the Local Arrangements Committee and not the Program Committee.

F. *Film Programs.* Research and instructional films and film strips will be scheduled in special sessions to be arranged by the Audio-Visual Aids Committee, Lester F. Beck, Chairman. Paragraph D above should be followed by film distributors desiring to exhibit films not sponsored by the Audio-Visual Aids Committee. Others, see regulations on page 66.

G. *Special Programs.* Special types of programs are encouraged, such as demonstrations of psychological techniques and procedures, interest and discussion groups, or other novel ideas which may be arranged through the divisional program chairmen. Individual members are urged to take the initiative in suggesting such programs to the appropriate divisional program committee by April 10, but preferably considerably earlier if extensive planning is necessary. Members of Divisions 8, 9, and 14 should note the special division rules on page 67.

H. *Special Meetings, Luncheons, and Dinners.* Alumni groups and others who desire special meetings should make their requests known to the Chairman of the Local Arrangements Committee by May 8. These should include a statement of estimated attendance, time required, and whether arrangements for luncheon and dinner are also desired.

I. *Preconvention Sessions.* The Convention Program Committee *will not take responsibility* for the scheduling of sessions to be held prior to the opening of the convention on September 4, but the Local Arrangements Committee will assist in such scheduling. Room reservations and all other arrangements will have to be made by the individuals concerned. They should write to the Chairman of the Local Arrangements Committee for information. Arrangements to have these sessions listed in the program by title, time, and place only, may be made if complete information is submitted to the Program Chairman by May 8.

II. REGULATIONS FOR INDIVIDUAL REPORTS

In accordance with actions of the Council of Representatives at the annual convention in 1949 the following rules shall be binding upon all divisions, unless special exception has been made by the APA Program Committee at the request of a particular division. If special exception to these general rules has been granted to a specific division it will be found under Section V.

A. Who May Read Papers

1. Any member of the APA (Fellow or Associate) may read a paper, provided that it has been duly accepted by the program committee of a division and placed on that division's program.

2. A nonmember of the APA may read a paper provided that he is sponsored by a member of the APA and provided that his qualifications and his paper are acceptable to the program committee of the division concerned. (Foreign Affiliates and members of the Student Journal Group are not APA members and must be sponsored.) The APA member who agrees to sponser a nonmember must submit the abstract of the nonmember's paper to the divisional program committee concerned, together with the scientific qualifications and the name of the recognized national scientific society of which he is a member. In the case of graduate students, the letter should indicate the level of training and any other factors which might aid a divisional committee in determing fitness to present a paper. The paper of a nonmember accepted for the program will be indicated in the program and in the published abstract as follows: John Brown (Sponsor, John Doe). This rule applies to instances of multiple authorship where one of the authors is not an APA member.

3. No person may read more than one *volunteered* paper before any and all divisions, and no person may be a participant in more than one

symposium. A member may read a paper *and* participate in a symposium, however.

4. Papers may not be presented by proxy. This rule may be waived in cases where the author's attendance is prevented because of his participation in national defense, provided that the Program Chairman is notified of the circumstances not later than August 1, 1953.

5. Each abstract *must* be accompanied by a *signed* 3 × 5 card, as follows:

Name(s): _____
Title of paper: _____
Institution: _____
Mailing Address: _____

If this paper is accepted and placed on the program, I promise to appear in person and deliver it unless prevented by conditions beyond my control.

_____
(Signature)

6. Multiple authorship will be permitted; the first listed name in a multiple authorship should be that of the person who will read the paper.

7. Where multiple authorship includes a nonmember, either as primary or secondary joint author, the nonmember shall be subject to the stipulations of Rule 2 above.

8. Two volunteered papers which are identical or substantially equivalent may not be read at the convention, either by a single person or by different members of a team of co-workers.

9. A paper previously read at any regional meeting may not be read at the annual convention; this does not preclude acceptance of a paper presenting additional results on a topic concerning which a preliminary report has been made at a regional meeting.

10. An abstract of a given paper may be submitted to one division only.

11. *The submission to the APA or its divisions of papers whose reading would violate these rules will disqualify the author from reading any volunteered paper at the APA convention to which these papers are submitted.*

B. Form of Abstracts

1. Abstracts must be limited in length to 300 words. Longer abstracts cannot be printed. Abstracts should not contain tables, drawings, or graphs. These cannot be printed either. The reading time of the paper must be limited to 12 minutes.

2. Abstracts must be typed on one side of the paper only, double-spaced, and submitted in quadruplicate on 8½″ by 11″ white paper. The first copy should be on regular bond paper, not on onion skin or other thin paper. After they have been typed, the abstracts should be checked and proofread carefully since they will be printed in the form in which they are submitted.

3. Follow the form below in preparing your abstract:

Title of paper:
Author(s): Sponsor (if any):
Institution(s):
Text of abstract here
Size of slides (if any):

Author, sponsor, and institution should appear on *the first copy only.* The other copies, without identifying data, will be used by divisional program committees for judging the acceptability of the paper.

4. The text of the abstract should include a statement of the problem, subjects used, procedure, results, and conclusions.

5. Primarily discursive, theoretical papers, case studies, and the like, are perfectly acceptable for the program. Abstracts of such non-experimental papers must be accompanied by a manuscript (in quadruplicate) of the *complete paper,* however, because it is almost impossible to judge the quality of a theoretical discussion from a brief abstract alone.

C. Where to Send Abstracts

1. An abstract in quadruplicate, must be sent to one of the divisional program chairmen. It may be submitted to only one division. (See page 68 for names and addresses.) Select the division which best represents the area of interest covered by the paper. Do not send abstracts to the Executive Secretary of the APA or to the APA Program Committee.

2. One need not be a member of the particular division to which he sends his abstract as long as he is a Fellow or Associate of the APA, or in the case of nonmembers if rules of Section IIA are followed.

3. The deadline for receipt of abstracts by the divisional program chairmen is April 10.

III. REGULATIONS FOR SYMPOSIA

A. Initiation. With the exception of sessions organized by the APA Program Committee, all

symposia are organized by the divisions. Symposia organized by interdivisional committees should be handled as symposia jointly sponsored by two divisions, i.e., sent in to the APA Program Committee as part of one division's program with the joint sponsorship indicated after the title. Repetition of symposia topics and speakers on successive years should be avoided unless unusual progress or development have taken place in the area in the meantime.

Individual members who wish to propose a topic or detailed plans for a symposium, either within the program of one division or on an interdivisional basis, should get in touch with the appropriate divisional program chairman (or chairmen), not with the APA Central Office or the APA Program Committee. A proposal for a symposium should indicate the topic for discussion, some comment on the relevance of the topic and the general idea the member has in mind as the basis for proposing the symposium, the name of the chairman and each participant, and *a signed pledge from each promising to appear in person to participate unless prevented from doing so by conditions beyond his control.* The pledge should be given on a 3 × 5 card just as is required of the authors of individual research papers. This is an important condition to be met in the proposal for a symposium since a member may participate in no more than one symposium on the program. See Special Division Rules on page 67 regarding Division of Personality and Social Psychology symposia.

B. Technical Problems Only. Symposia will be considered appropriate only if the topic is sufficiently technical to insure a progressive movement of ideas during the session. It is essential that a symposium be well planned in advance with a thorough exchange of views, and preferably of manuscripts, by the participants. It is urged that the number of speakers on each symposium be kept to a minimum and that the chairman assume a real responsibility for the effective coordination of the session. Interdivision symposia are especially encouraged.

C. Deadlines. Suggestions for symposia must be in the hands of the appropriate divisional program chairman by April 10. The names and pledges of the chairman and participants should be turned in at that time, too. The divisional committee has to submit the completed proposal (including topic, names, and pledges) to the APA Program Committee by May 8. A member who wishes to propose a symposium should get it organized as early as possible and propose it in as complete a form as possible, because a divisional committee cannot estimate the potential value of a symposium unless it knows who the participants are to be. Only a divisional program representative may submit the final symposium plans to the APA Program Committee.

IV. REGULATIONS FOR FILMS, FILM STRIPS, AND SLIDES

Films. As in the past, a projection room and facilities for showing 16 mm. sound and silent films will be provided. Those desiring to present new films, film strips, or other audio-visual aids (including sound recordings) should send them in finished form to Dr. Lester F. Beck, Department of Cinema, Institute of Arts, University of Southern California, Los Angeles 7, California. Members desiring to request the showing of existing films should send the titles and distributors' names, indicating order of preference if more than one film is requested. The APA Audio-Visual Aids Committee, of which Dr. Beck is chairman, will select the films to be shown and will schedule their presentation.

The deadline for the receipt by Dr. Beck of films, other audio-visual aids, and requests for film showing, is April 10. Films received after this date, but before August 1, will be considered for showing but cannot be announced in the printed program.

Commercial producers of films desiring to show films in addition to any which may be selected for showing by the Audio-Visual Aids Committee, should follow the rules for exhibits on page 63.

Slides. Slides do not need to be submitted in advance, though notification of their intended use must be made on the abstract. If slides will be used at a symposium or address, this fact must also be made known to the appropriate divisional program committee. The Local Arrangements Committee cannot take responsibility for providing projectors for any meeting unless they know in advance that slides will be used.

Standard lantern slides ($3\frac{1}{4}'' \times 4''$) are preferred. If $2'' \times 2''$ slides are to be used this must be stated on the abstract. Those using $2'' \times 2''$ slides should check well in advance of the session to be sure that a projector is available at that time; to be on the safe side such a projector should be brought along if possible.

V. SPECIAL DIVISION RULES

All the divisions except those listed below will use the general APA rules:

Division 8, Personality and Social Psychology. At the divisional program committee's discretion, some of the Individual Reports will be accompanied by Invited Discussants. Where this is done, a one-hour session will consist of 3 papers plus discussion, and a two-hour session of 6 or 7 papers and discussion. The time limitation of 12 minutes will be maintained for the Individual Reports on these sessions.

Suggestions for symposia are to be accompanied by abstracts similar to those submitted for Individual Reports. These are to be limited to a 100-word general statement plus a 300-word abstract of the presentation of each participant. These are for the use of the Program Committee and will not be printed in the program issue of the *American Psychologist.*

Division 8 is inviting members to request Small Discussion Groups on specialized topics. These can be announced in the program, and have rooms assigned. Groups of ten to twenty-five are envisaged. In case attendance is to be limited, or premeeting circulation of manuscripts is envisaged, these details should be indicated in the request. The name of the person responsible for each group will be printed in the program.

Division 9, Society for the Psychological Study of Social Issues. This division's program for the 1953 APA Convention will consist largely of symposia and possibly discussion groups. It has been the policy of Division 9 for several years that individual reports of research which might ordinarily be considered to fall within the domain of Division 9, be handled instead by Division 8, the Division of Personality and Social Psychology.

Division 9 invites suggestions from its members for small discussion groups on special topics. The suggestion format should include: (1) Title. (2) A statement of no more than 200 words indicating (*a*) the relevance of the specialized topic to the field of psychology encompassed by Division 9, (*b*) the contribution such a discussion group could make to the program of Division 9 as well as an indication of some of the main themes and ideas that the group might discuss, and (*c*) the manner in which the group is to be led. (3) The suggested chairman of such a group should also be stated. It is expected that such a discussion group will consist of no more than thirty members.

Division 14, Industrial and Business Psychology. This division requires that *all* abstracts must be accompanied by the paper in its entirety.

VI. DIVISION PROGRAM CHAIRMEN

In order to facilitate the work of the APA Convention Program Committee it is required that all division program material (papers and symposia), requests for meetings, etc., be submitted to the APA Program Chairman by only *one* divisional representative, preferably the divisional program chairman.

VII. DEADLINES

April 10 Abstracts, manuscripts, and proposals for symposia must be in the hands of divisional program chairmen (see list, page 68).

April 10 Films, etc., must be in the hands of Dr. Lester F. Beck, Chairman, Audio-Visual Aids Committee.

May 8 Requests for business meetings, luncheons, dinners, etc., of APA divisions, boards, committees, etc., must be in the hands of the Chairman, APA Program Committee. Similar requests from special groups, university groups, government agencies, etc., must be in the hands of the Chairman, Local Arrangements Committee.

May 8 Completed divisional programs of individual papers, symposia, special meetings, etc., must be in the hands of the Chairman of the APA Program Committee. In addition to abstracts, the completed divisional programs include the general titles and the chairmen of the individual paper-reading sessions and symposium participants and chairmen, plus the signed pledge cards.

DIVISION PROGRAM CHAIRMEN

1953 Convention

Division 1. Division of General Psychology
Dr. John I. Lacey
Fels Research Institute
Yellow Springs, Ohio

Division 2. Division on the Teaching of Psychology
Dr. Richard P. Youtz
Barnard College
Columbia University
New York 27, New York

Division 3. Division of Experimental Psychology
Dr. Alphonse Chapanis
The Johns Hopkins University
1315 St. Paul Street
Baltimore 2, Maryland

Division 5. Division on Evaluation and Measurement
Dr. Irving Lorge
Teachers College
Columbia University
New York 27, New York

Division 7. Division on Childhood and Adolescence
Dr. Herbert Wright
Department of Psychology
University of Kansas
Lawrence, Kansas

Division 8. Division of Personality and Social Psychology
Dr. Donald T. Campbell
Department of Psychology
University of Chicago
Chicago 37, Illinois

Division 9. The Society for the Psychological Study of Social Issues
Dr. Bernard Rosenthal
Social Science Research Building
University of Chicago
Chicago 37, Illinois

Division 10. Division on Esthetics
Dr. Rudolph Arnheim
Sarah Lawrence College
Bronxville, New York

Division 12. Division of Clinical and Abnormal Psychology
Dr. William A. Hunt
Department of Psychology
Northwestern University
Evanston, Illinois

Division 13. Division of Consulting Psychology
Dr. Marie Skodak
Personnel Counseling Service
530 East Third Street
Flint, Michigan

Division 14. Division of Industrial and Business Psychology
Dr. Bernard J. Covner
Dunlap and Associates, Inc
P. O. Box 1070
429 Atlantic Street
Stamford, Connecticut

Division 15. Division of Educational Psychology
Dr. Irving Lorge
Teachers College
Columbia University
New York 27, New York

Division 16. Division of School Psychologists
Miss Esther L. Belcher
Department of Public Instruction
Division of Special Education
Lansing 2, Michigan

Division 17. Division of Counseling and Guidance
Dr. John M. Butler
5737 Drexel Avenue
Chicago 37, Illinois

Division 18. Division of Psychologists in Public Service
Mr. Ernest Primoff
Box 31
Herndon, Virginia

Division 19. Division of Military Psychologists
Dr. Richard Henneman
Department of Psychology
University of Virginia
Charlottesville, Virginia

Division 20. Division on Maturity and Old Age
Dr. Wilma Donahue
Division of Gerontology
Institute for Human Adjustment
University of Michigan
Ann Arbor, Michigan

Chairman of the APA Convention Program Committee
Dr. Launor F. Carter
AFF Human Research Unit No. 2
P. O. Box 446
Fort Ord, California

Chairman of the Committee on Audio-Visual Aids
Dr. Lester F. Beck
Department of Cinema
Institute of Arts
University of Southern California
Los Angeles 7, California

Chairman of the Local Arrangements Committee
Dr. Donald M. Johnson
Department of Psychology
Michigan State College
East Lansing, Michigan

SOME CONTRIBUTIONS OF AN EXPERIMENTAL ANALYSIS OF BEHAVIOR TO PSYCHOLOGY AS A WHOLE[1]

B. F. SKINNER

Harvard University

FREQUENCY OF RESPONSE AND PROBABILITY OF ACTION

ALL psychologists study behavior—even those who believe this to be merely a step toward a subject matter of another sort. All psychologists therefore face certain important common problems. The "pure" experimental study of behavior in either the field or the laboratory is by its very nature concerned with problems of this sort. Any progress it may make toward solutions should be of interest to everyone who deals with behavior for any reason whatsoever.

As an example, let us consider a concept which, in the most general terms, may be called "probability of action." Behavior which has already occurred and may never be repeated is of limited interest. Psychologists are usually especially concerned with the future of the organisms they study. They want to predict what an individual will do or at least to specify some of the features which his behavior will exhibit under certain circumstances. They also frequently want to control behavior or to impress certain features upon it. But what sort of subject matter is *future* behavior? How is it represented in the organism under observation?

Generally it is argued or implied that when we predict or arrange a future course of action, we are dealing with some contemporary state of the organism which represents the specified action before it has taken place. Thus, we speak of tendencies or readiness to behave as if they corresponded to something in the organism at the moment. We give this "something" many names—from the preparatory set of experimental psychology to the Freudian wish. Habits and instincts, dispositions and predispositions, attitudes, opinions, even personality itself, are all attempts to represent in the present organism something of its future behavior. Probability of action has been given the physical status of a *thing*. It has been, so to speak, *embodied* in the organism—in the neurological or psychic states or events with which habits, wishes, attitudes, and so on may be identified. This solution has forced us to assign extraneous properties to behavior which are not supported by the data and which have been quite misleading.

The physical referent of a probability must be among our data or the problem would not have been so persistent. The mistake we make is in looking for it as a property of a single event, occupying only one point in time. As the mathematicians have noted, perhaps not unanimously, a probability is a way of representing a frequency of occurrence. In the program of research to be summarized and exemplified here, probability of action has been attacked experimentally by studying the repeated appearance of an act during an appreciable interval of time.

Frequency of response is emphasized by most of the concepts which have foreshadowed an explicit recognition of probability as a datum. An organism possesses a "habit" to the extent that a certain form of behavior is observed with a special frequency—attributable to events in the history of the individual. It possesses an "instinct" to the extent that a certain form of behavior is observed with a special frequency—in this case because of membership in a given species. An "attitude" expresses a special frequency of a number of forms of behavior. These frequencies are the observable facts and may be studied as such rather than as evidence for the embodiment of probability in neural or psychic states.

Dozens of less technical terms serving the same purpose point to an all-abiding practical and theoretical interest in frequency of response as a datum. We say that someone is a tennis fan if he *frequently* plays tennis under appropriate circumstances. He is "enthusiastic" about skating, if he *frequently*

[1] Adapted from a lecture at the Thirteenth International Congress of Psychology in Stockholm, Sweden, July 1951.

goes skating. He is "greatly interested" in music if he plays, listens to, and talks about music *frequently*. The "inveterate" gambler gambles *frequently*. The "highly sexed" *frequently* engage in sexual behavior. The linguistic effect of terms of this sort—as of the more technical terms—is to move from an observation of frequency to an inferred momentary condition. But this should not be allowed to influence the direction of our research. The basic facts can be discovered only by examining behavior during appreciable intervals of time.

In designing a laboratory situation in which frequency of response may be easily examined certain considerations must be observed. We must choose a sample of behavior which may be so easily identified that repeated instances may be reliably counted. If our experiment is to be automatic—and there are many advantages in making it so—the chosen response must operate an apparatus. The response should not require much time, and it should leave the organism ready to respond again. These conditions are rather arbitrary, and our results must be qualified accordingly, but they are easily met. Sometimes such a response is found ready-made—as in studying so-called instinctive behavior. At other times it must be, so to speak, constructed. In the case of the rat, for example, it has been found convenient to use such a response as depressing a horizontal bar. In birds—for example, the pigeon—a convenient response is pecking a key through a small hole in the wall. Each of these responses is easily specified and can be readily repeated. The pigeon may peck the key, for example, as rapidly as fifteen times per second.

To record the frequency of such a response we could, of course, use the standard polygraph, but another sort of curve has proved to be much more convenient. A pen is arranged to move one step across a strip of paper each time the organism responds. The result is a steplike diagonal line. Frequency is thus converted into the slope of the recorded line. Coordinates are chosen which convert the commonest frequencies into convenient slopes. If the organism is responding rapidly, the line is fairly steep. If it responds slowly, the slope is low. If it does not respond at all, the pen draws a horizontal line. With a little practice it is easy to estimate frequencies from the slopes of such graphs and to follow changes in frequency with fair accuracy. In Fig. 1 some actual records show the

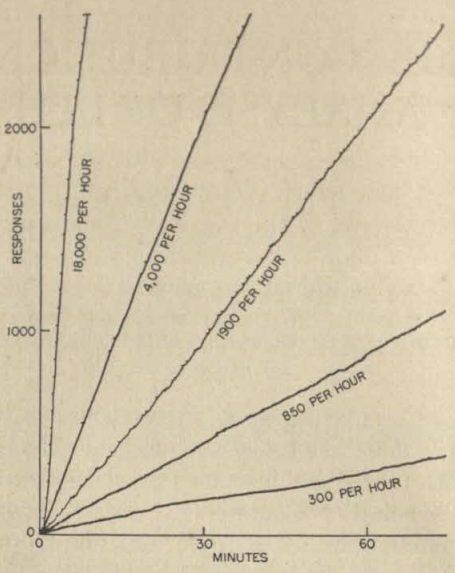


FIG. 1. Cumulative curves made by pigeons under various schedules of reinforcement showing relative uniform performance over a wide range of rates of responding.

range of frequencies encountered in the pigeon. The separate steps of the pen cannot be seen on this scale. One record shows a sustained rate of 18,000 responses per hour—five responses per second. Another record, by way of comparison, shows only 300 responses per hour—one response every twelve seconds—yielding a very low slope.

SCHEDULES OF REWARD

Frequency of response, so recorded, is a useful and significant datum in the experimental analysis of behavior. It is a sensitive "dependent variable" which has been found to be a function of many subtle experimental conditions. The degree of sensitivity is well illustrated by some results of a current research project [2] under the directorship of Dr. Charles Ferster and the author. This work falls within the traditional field of learning, a subject which demonstrates especially well the importance of frequency as a datum. Traditional experiments in learning have usually been concerned with changes in the character of behavior. The organism learns *how* to do something; it acquires new behavior. But the conditions which produce this kind of learning continue to have an effect when

[2] This research, carried out under Contract N5ori-07631 between Harvard University and the Office of Naval Research, has been under the direction of the author. Dr. Charles B. Ferster has served as principal investigator.

the character or topography of behavior no longer changes appreciably. The *form* of the response remains unaltered, but its *frequency* is nevertheless still affected.

Consider, for example, what we call a reward or, to use a more technical term suggested by Pavlov, a reinforcement. A convenient reinforcement is giving food to a hungry organism. If we arrange our apparatus so that a small amount of food is presented immediately after a selected response is made, we observe an immediate increase in the frequency of that response. By reinforcing slight variations in the form of response, we may mold behavior almost as a sculptor molds a lump of clay. In our experiments with pigeons the response of pecking the key on the wall may be conditioned in two or three minutes by selecting behavior which progressively approaches the form of this response. This is the kind of change traditionally studied in the field of learning. But when such behavior has been acquired, further reinforcements are not without effect. They no longer change the form of the response, but they maintain it as part of the current repertoire of the organism. This is seen in the simple fact that, unless a response continues to be reinforced, it disappears in what we call extinction. But there are many subtle degrees of probability of action between an inevitable response and no response at all.

The experiments to be described here are part of an extensive exploration of the effect of reinforcements which are only intermittently presented. In daily life the connection between a response and its consequences is usually not invariable, for it may depend upon events which are not fixed. We do not always win at cards or dice because the contingencies are so remotely determined that we call them "chance." We do not inevitably find good ice when we go skating—for very obvious reasons. Contingencies which require the participation of other people are especially likely to be uncertain. We do not always get a good meal in a restaurant because chefs are not always predictable. We do not always get an answer when we telephone a friend because the friend is not always at home. We do not always get a fountain pen by reaching into our pocket because this result depends upon our having put it there.

In analyzing the effect of intermittent reinforcement we have to distinguish between many different ways in which reinforcements may be scheduled.

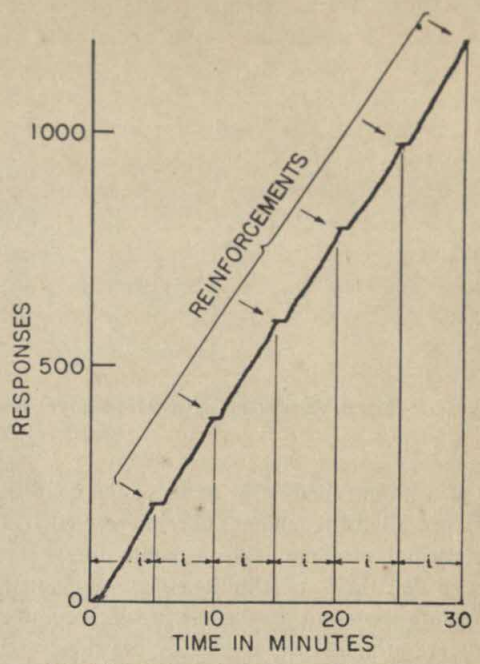


FIG. 2. Fixed-interval reinforcement. The interval (*i*) is 5 min.

In some of these a system outside the organism, such as a clock, arranges a connection between the movement of the key and the presentation of food. For example, a response to the key may be reinforced once every five minutes while all other responses are allowed to go unreinforced. In other schedules the reinforcements may be arranged by the organism itself—for example, we may reinforce every fiftieth response. These cases appear to be similar in the sense that we reinforce intermittently in both, but subtle differences in the schedules lead to very different results, many of which are of great practical significance.

We might study the subject by specifying all possible schedules or programs of reinforcement and by determining the typical performance generated by each. In one sense this would give us a complete picture. But a thorough analysis must go further. *Why* does a given schedule yield a given performance? We cannot suppose that it is simply because organisms are fond of mathematics. We need to examine the way in which a particular schedule actually affects the organism. The only point of contact between the scheduling mechanism and the organism occurs at the moment of reinforcement. Dr. Ferster and I have therefore attempted to account for the performance character-

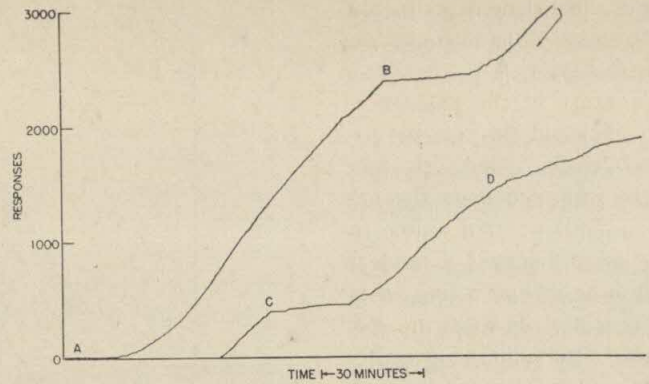


FIG. 3. Extinction after fixed-interval reinforcement. The record has been broken into two segments to avoid undue reduction.

istic of a given schedule in terms of the conditions which prevail at the moment of reinforcement. The experimental problem is to separate these conditions so that their contributions may be evaluated.

We may represent a schedule in which reinforcements are arranged by a clock by drawing vertical lines on our cumulative graph. In Fig. 2 the lines are five minutes apart. A response is reinforced as soon as the pen reaches the first line, regardless of how many responses have been made. Another response is reinforced when the pen reaches the second line, and so on. In other words, we simply reinforce responses at intervals of approximately five minutes. Call this "fixed-interval reinforcement." The organism quickly adjusts with a fairly constant rate of responding, which produces a straight line with our method of recording. The rate—the slope of the line—is a function of several things. It varies with difficulty of execution: the more difficult the response, the lower the slope. It varies with degree of food deprivation: the hungrier the organism, the higher the slope. And so on. It will be seen, moreover, that such a record is not quite straight. After each reinforcement the pigeon pauses briefly—in this case for 30 or 40 seconds. This is due to the fact that under a fixed-interval schedule no response is ever reinforced just after reinforcement. The organism is able to form a discrimination based upon the stimuli generated in the act of eating food. So long as this stimulation is effective, the rate is low. Thereafter the organism responds at essentially a constant rate. It would appear that stimuli due to the mere passage of time are not significantly different to the organism during the remaining part of the interval. The organism cannot, so to speak, tell the difference between, say, three and four minutes after reinforcement under these circumstances. At longer fixed intervals—of, say, 15 minutes—each segment of such a record is a smooth, positively accelerated curve.

A pigeon will continue indefinitely to respond when reinforcements are spaced as much as 45 minutes apart. Food is then received too slowly to maintain body-weight, so that extra feeding is necessary between experimental periods. The behavior after each reinforcement shows a much slower acceleration from a low to a high rate. In extinction, the effect of self-generated stimuli is seen. Figure 3 is an example, broken into two segments to show details more clearly. The pigeon begins as usual at a low rate of responding at A. It has never been reinforced at the start of the experiment or immediately after another reinforcement. A higher rate develops smoothly during the first 20 or 30 minutes. This part of the curve is a fair sample of the behavior after each reinforcement on a 45-minute schedule. Eventually a rate is reached at which reinforcements have been most often received. (This is by no means the highest rate of which the pigeon is capable.) Because this is an optimal condition, the rate prevails for some time. When the pigeon pauses for a few moments (at B), it creates a condition which is not optimal for reinforcement. Responding is therefore not resumed for some time. Eventually another slow acceleration leads to the same high rate. When this is again broken (at C), another period of slow responding intervenes, followed by another acceleration. Eventually the rate falls off in extinction. Although such a curve is complex, it is not disorderly. It is by no means random responding. Since no

external condition changes during the experimental period, the change in rate must be due to conditions altered by the bird's own behavior.

We can test the importance of the passage of time in accounting for behavior of this sort by giving the pigeon an external "clock." One such clock consists of a spot of light projected upon the key which the pigeon pecks. The spot marks time by changing size. At first it is only ⅛th of an inch in length. It grows to ¾th of an inch at a given rate. The response to the key is reinforced when the spot is largest. When the pigeon returns to the key after reinforcement, the spot has again become small. Here is an external stimulus, then, roughly proportional to the time which has passed since the last reinforcement. Can it be used by the pigeon as a discriminative stimulus?

To avoid a disturbing complication we must get the spot of light into the experiment before it functions as a clock. Suppose we begin by holding the spot still at its largest size, and build up the usual fixed-interval performance. In Fig. 4 the upper curve shows a standard sample. The spot was set at "large" and the record is typical of reinforcement at intervals of ten minutes. We now—for the first time—change the size of the spot, letting it begin at "small" to grow progressively larger during the interval. The spots in the circles above the lower record give sample readings of the clock at various positions. We observe that the pigeon is sensitively controlled by the size. When the spot is small it is most unlike its accustomed size, and the rate is almost zero. As the spot grows, the similarity increases and the rate rises. As the spot reaches its final standard size, the rate has reached or exceeded the value at which responses have been reinforced. Such a curve is not the effect of the passage of time; it is the effect of stimulus generalization from large spots to smaller ones.

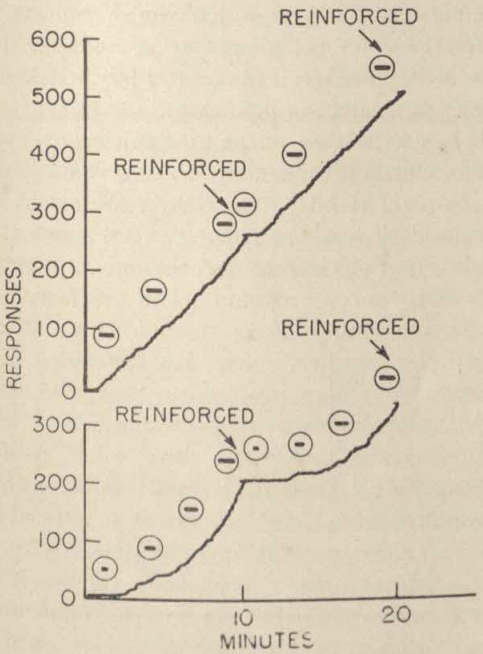


FIG. 4. First effect of allowing a spot of light to change size as a function of time. Upper curve: typical performance under fixed-interval reinforcement with the spot of light at "large" as shown in the circles. Lower curve: first effect of changing the spot to "small" immediately after reinforcement and allowing it to grow linearly during the following interval of 10 min. Sample sizes of the spot are shown in the circles.

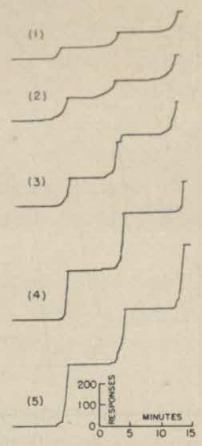


FIG. 5. Progressive change in the pigeon's response to an external clock. The series (1) through (5) illustrates the increasing effectiveness of the spot of light as a discriminative stimulus.

Eventually, however, the correlation between the size of the spot and the passage of time is felt. The pigeon begins, so to speak, to "tell time." In Fig. 5 a series of records show the progress of a pigeon in learning to use the clock projected upon the key. Groups of three intervals each have been selected from a single experimental record. In Record 1 the curvature is already somewhat sharper than in the preceding figure. As the pigeon is repeatedly exposed to the changing spot and is reinforced only when the spot is large, these gradients become sharper still. By the time Record 5 is reached, the pigeon is not responding for approximately the first seven or eight minutes out of each ten. By that time the spot has reached a size very close to opti-

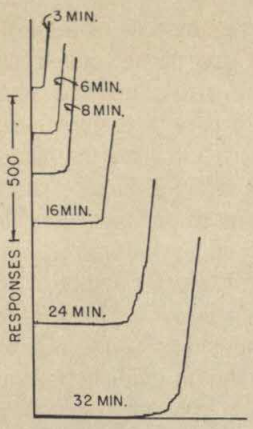


FIG. 6. Typical performances with the clock moving at different speeds. The clock completes the cycle from "small" to "large" in a given number of minutes as marked.

mal and responding then begins and soon reaches a very high rate.

Eventually the pigeon characteristically waits fully eight out of the ten minutes and responds at a rate of four or five responses per second during the remaining part of the interval. It has formed a very precise size discrimination. This would be the result without an added clock if the pigeon had what we call a precise "sense of time," but it is obvious that the unamplified passage of time is very insignificant for the pigeon compared with a physical clock of this sort.

The extent of the control exercised by the size of the spot is beautifully illustrated if we withhold further reinforcement while allowing the clock to run, repeating cycle after cycle of the growth of the spot from small to large during extinction. The pigeon continues not to respond during all sizes of the spot except those close to the value which has previously obtained at reinforcement. As repeated responses go unreinforced, however, the amount of responding to the high value progressively decreases. The extent of the control exercised by the spot can be shown in many other ways. We discovered one of these by accident. Our experiments are automatic, and our apparatus is used 24 hours of the day. When we reached the laboratory one morning, we found that a pigeon had not responded all night long. Investigation showed that through an oversight the clock had not been started. The spot had remained at its smallest size for 15 hours. During this time the pigeon had not made a single response to the key.

At the other extreme, we can show the enormous stimulating power of the clock stopped at its optimal size. In a typical experiment the pigeon responded nearly 2,000 times during a single 10-minute interval with the clock set at "large." This extraordinary stimulus control far exceeds that obtained through the discrete presentation of discriminative stimuli. A continuously varying stimulus may possibly form the basis for a more sensitive psychophysical technique.

When time has been, so to speak, externalized in this way, it may be manipulated. For example, our clock may be made to run fast or slow. In one experiment, various "speeds of time" were introduced at random in successive intervals. The clock might complete one cycle in, say, 6 minutes, at the end of which time a response would be reinforced; the next cycle might require 16 minutes; and so on. The extent of the control exercised over the bird's behavior is seen in Fig. 6, where typical performances for a range of clock speeds between one cycle in 3 minutes and one cycle in 32 minutes are shown. The rate of responding is roughly the same for a given size of spot regardless of speed of change. The curve at 32 minutes is obviously not approximately 10 times as high as that at 3 minutes, however, as it should be if the control by the spot were strictly equivalent in both cases.

It is also possible to run externalized time backward. Our first experiment of this sort was also an accident. The bird was being studied with a 3-minute clock and was responding as shown at the left in Fig. 7. The next day, through an oversight, the clock was run backward. The spot began large

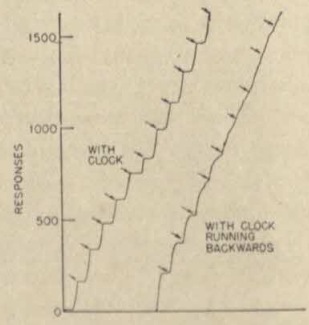


FIG. 7. The effect of the clock running backwards. Left curve: standard performance with the clock operating as in earlier graphs. Right curve: record obtained when the clock was accidentally reversed. The control exercised by the size of the spot completely masks any effect of the passage of time and inverts the standard curve. Successive reinforcements with the clock at "small" soon destroy this control.

and grew small. The first three segments of the second curve in Fig. 7 are essentially inversions of the segments of the other curve. Since the bird was now reinforced when the spot was small, however, a new pattern quickly arose. The curve becomes essentially linear and at a later stage the usual performance with a clock developed.

We may eliminate the effect of time by adopting a different schedule, in which reinforcement is still controlled by a clock, but the intervals are varied, roughly at random, within certain limits and with a given mean. In such a case the bird cannot predict, so to speak, when the next reinforcement is to be received. This is called variable-interval reinforcement. The effect is a uniform rate of responding with great stability, which may be maintained for many hours. During a single experimental period of fifteen hours a bird responded 30,000 times. Toward the end of the record there was one pause approximately one minute long but otherwise the bird did not pause longer than fifteen seconds at any

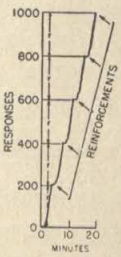


FIG. 8. Fixed-ratio reinforcement. The ratio (r) is 200 responses per reinforcement.

time during the fifteen hours. During this period the bird received less than its daily ration of food.

We turn now to an entirely different type of schedule. The moment at which a response is to be reinforced may be determined by the behavior of the organism itself. For example, we may reinforce every fifth response, every fiftieth response, or every two-hundredth response. We call this "fixed-ratio reinforcement." In industry, it is called piece-work pay. The pigeon's behavior under such a schedule is not too difficult to interpret. Figure 8 shows a short segment of a characteristic performance. A response is reinforced every time the pigeon completes a group of 200 responses. Just as we represented a fixed-interval reinforcement by drawing vertical lines on our cumulative graph, so here we may represent fixed-ratio reinforcement with a series of horizontal lines. Whenever the curve reaches one of these lines a response is reinforced, no matter how much time has elapsed.

The results depend upon the size of the ratio. For ratios which may be easily maintained—for example, a ratio of 100:1 for the pigeon—the curves are essentially straight lines of high slope. Immediately after each reinforcement, however, a low rate of responding prevails which may be extended into long delays when the ratios are high. The transition from a low to a high rate between reinforcements is sometimes of such a nature that the curve shows a smooth gradient as in Fig. 8. Otherwise the change from no responding to rapid responding is usually abrupt. The high rate which prevails when the organism is responding appears to be due to another source of stimulation available under fixed-ratio reinforcement. In addition to a clock the pigeon presumably has a "counter" which tells it how many responses it has made since the previous reinforcement.

An increase in its counter reading may be immediately reinforcing to the pigeon. One way to test this is to add an external counter comparable to the external clock. The spot of light on the key is made to grow, not with the passage of time, but with the accumulation of responses. If the pigeon does not respond, the spot remains stationary. With each response it grows by a small amount. The effect of this externalized counter is dramatic. In one experiment the pigeon was being reinforced approximately every 70 responses. It was proceeding at an over-all speed of about 6,000 responses per hour. As soon as a spot of light was added to the key, in such a way that it grew from "small" to "large" as the effect of 70 responses, the rate went up almost immediately to 20,000 responses per hour. Pauses after reinforcement disappeared. Obviously the pigeon's own "counter" is much less effective than the spot of light. It is possible to carry a pigeon to a high ratio without introducing appreciable pauses after reinforcement, but this process is slow and must be carried out with great care, presumably because the pigeon must be made sensitive to changes in its own counter.

We can prove that the pigeon is, so to speak, counting its responses by setting up a two-valued schedule of reinforcement. We reinforce the fiftieth response after the preceding reinforcement or the two hundred and fiftieth, and we arrange our program in such a way that there is no indication in advance of which ratio is to prevail. In such a

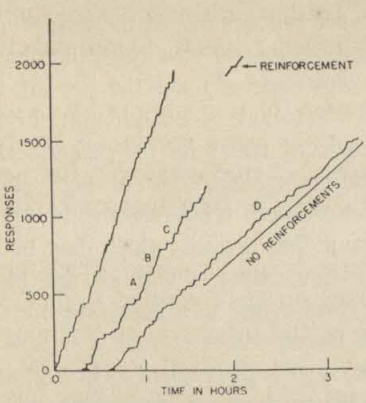


FIG. 9. Two-valued reinforcement. Ratios of 50:1 and 250:1 in random order.

case, the pigeon develops a steplike curve appropriate to a ratio of 50:1. But it shows this, of course, even when the ratio is actually 250:1. In Fig. 9, for example, the segments at A, B, and C show either three or four waves which are the gradients prevailing under a reinforcement of 50:1. The pigeon begins as if the ratio were to be 50:1, but after 60 or 70 responses have been completed there is a marked decrease in rate which can be explained only by assuming that the bird "knows the score." A short period of slow responding follows. This gives way to a second gradient, again roughly of the order prevailing under 50:1 reinforcement. This may be followed by a third or even fourth gradient before reinforcement is received at the two-hundred-and-fiftieth response. If, as at D, we simply withhold all reinforcements, an extinction curve emerges in the form of a series of waves, averaging approximately 50 responses each. This cannot be due to the mere passage of time, since time does not show a wavelike character. It cannot be due to a discrimination based upon the rate of responding, because this should lead to long segments at a high rate as in both fixed-interval and fixed-ratio reinforcement. We have, then, to take into account a third source of automatic stimulation at the moment of reinforcement provided by a "counter."

We can eliminate the "counter" by randomizing a schedule of many different ratios. In a typical experiment with what we may call "variable-ratio reinforcement," a response was reinforced on the average every one hundred and ten responses, but in actual practice the very next response or a response as many as 500 responses later might be reinforced. The schedule produced a rate of responding of approximately 12,000 responses per hour, which was sustained for long periods of time without any of the oscillations in rate characteristic of fixed-ratio reinforcement. This variable-ratio schedule is familiar to everyone, because it is the fundamental feature of all gambling devices. The pigeon making 12,000 responses per hour is not far removed from the pathological gambler. Variable-ratio reinforcement engages and holds the behavior of the organism with particular power. The magnitude of its control is seen when we extinguish the response. Figure 10 is an extinction curve obtained after the variable-ratio reinforcement just described. The curve has been broken into consecutive segments in order to avoid undue reduction. It begins with a long run of approximately 7,500 responses during which there is no appreciable retardation. The remainder of the curve is also illuminating. After short periods of slow re-

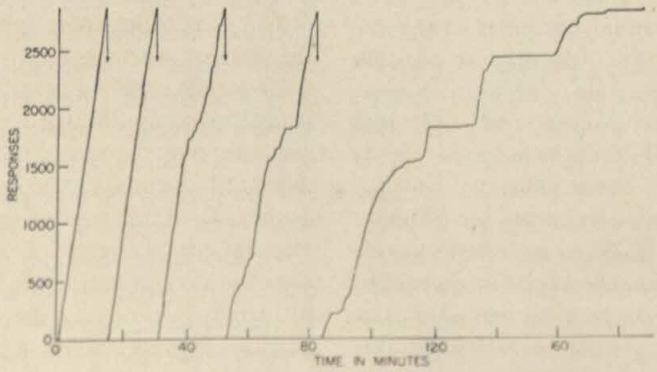


FIG. 10. Extinction after variable-ratio reinforcement. The mean ratio was 110 responses per reinforcement. The record has been broken into segments.

sponding the pigeon returns again and again to the original rate which, as the prevailing condition at previous reinforcements, tends to perpetuate itself.

FREQUENCY OF RESPONDING AS AN EXPERIMENTAL DATUM

Intermittent reinforcement is widely used in the control of human behavior. Many different kinds of wage systems illustrate it, and the schedules characteristic of gambling devices play a powerful role. Almost all the complex behavior which we used to speak of as representing the higher mental processes arises from differential reinforcement which is necessarily intermittent, and we cannot evaluate such processes until the contributions of the schedules themselves have been discovered. This material is presented here, however, merely to exemplify the kind of result which follows when one takes probability—or, more immediately, frequency—of response as a subject matter. The following points seem to be justified.

1. Frequency of response is an *extremely orderly datum.* The curves which represent its relations to many types of independent variables are encouragingly simple and smooth.

2. The results are *easily reproduced.* It is seldom necessary to resort to groups of subjects at this stage. The method permits a direct view of behavioral processes which have hitherto been only inferred. We often have as little use for statistical control as in the simple observation of objects in the world about us. If the essential features of a given curve are not readily duplicated in a later experiment—in either the same or another organism—we take this, not as a cue to resort to averages, but as a warning that some relevant condition has still to be discovered and controlled. In other words, the uniformity of our results encourages us to turn, not to sampling procedures, but to more rigorous experimental control.

3. As a result of (2) the concepts and laws which emerge from this sort of study have an *immediate reference* to the behavior of the individual which is lacking in concepts or laws which are the products of statistical operations. When we extend an experimental analysis to human affairs in general, it is a great advantage to have a conceptual system which refers to the single individual, preferably without comparison with a group. A more direct application to the prediction and control of the individual is thus achieved. The study of frequency of response appears to lead directly to such a system.

4. Frequency of response provides a *continuous* account of many basic processes. We can follow a curve of extinction, for example, for many hours, and the condition of the response at every moment is apparent in our records. This is in marked contrast to methods and techniques which merely sample a learning process from time to time, where the continuity of the process must be inferred. The samples are often so widely spaced that the kinds of details we see in these records are missed.

5. We must not forget the considerable advantage of a datum which lends itself to *automatic experimentation.* Many processes in behavior cover long periods of time. The records we obtain from an individual organism may cover hundreds of hours and report millions of responses. We characteristically use experimental periods of eight, ten, or even fifteen hours. Personal observation of such material is unthinkable.

6. Perhaps most important of all, frequency of response is a valuable datum just because it provides *a substantial basis for the concept of probability of action*—a concept toward which a science of behavior seems to have been groping for many decades. Here is a perfectly good physical referent for such a concept. It is true that the momentary condition of the organism as the tangent of a curve is still an abstraction—the very abstraction which became important in the physical sciences with Newton and Leibnitz. But we are now able to deal with this in a rigorous fashion. The superfluous trappings to be found in traditional definitions of terms like habit, attitude, wish, and so on, may be avoided.

The points illustrated here in a small branch of the field of learning apply equally well to other fields of behavior. Frequency of response has already proved useful in studying the shaping of new responses and the interaction between responses of different topography. It permits us to answer such a question as: Does the emission of Response A alter the probability of Response B, which resembles A in certain ways? It has proved to be a useful datum in studying the effect of discriminative stimuli. If we establish a given probability of response under Stimulus A, we can discover the probability that the response will be made under Stimu-

lus B, which resembles A. The question "Is red as different from orange as green is from blue?" is quite meaningful in such terms. Pattern discrimination and the formation of concepts have been studied with the same method.

Frequency of response is also a useful datum when two responses are being considered at the same time. We can investigate the behavior of making a choice and follow the development of a preference for one of two or more stimuli. The datum has proved to be especially useful in studying complex behavior in which two or more responses are related to two or more stimuli—for example, in matching color from sample or in selecting the opposite of a sample. Outside the field of learning considerable work has been done in the fields of motivation (where frequency of response varies with degree of deprivation), of emotion (where, for example, rate of responding serves as a useful baseline in observing what we may call "anxiety"), of the effects of drugs (evaluated, for example, against the stable baseline obtained under variable-interval reinforcement), and so on. One of the most promising achievements has been an analysis of punishment which confirms much of the Freudian material on repression and reveals many defects in the use of punishment as a technique of control.

The extension of such results to the world at large frequently meets certain objections. In the laboratory we choose an arbitrary response and hold the environment as constant as possible. Can our results apply to behavior of much greater variety emitted under conditions which are constantly changing? If a certain experimental design is necessary to observe frequency, can we apply the results to a situation where frequency cannot be determined? The answer here is the answer which must be given by any experimental science. Laboratory experimentation is designed to make a process as obvious as possible, to separate one process from another, and to obtain quantitative measures. These are the very heart of experimental science. The history of science shows that such results can be effectively extended to the world at large. We determine the shape of the cooling curve only with the aid of the physical laboratory, but we have little doubt that the same process is going on as our breakfast coffee grows cold. We have no evidence for this, however, and probably could not prove it under genuine breakfast-table conditions. What we transfer from the laboratory to the casual world in which satisfactory quantification is impossible is the knowledge that certain basic processes exist, that they are lawful, and that they probably account for the unpleasantly chaotic facts with which we are faced. The gain in practical effectiveness which is derived from such transferred knowledge may be, as the physical sciences have shown, enormous.

Another common objection is that if we identify probability of response with frequency of occurrence, we cannot legitimately apply the notion to an event which is never repeated. A man may marry only once. He may engage in a business deal only once. He may commit suicide only once. Is behavior of this sort beyond the scope of such an analysis? The answer concerns the definition of the unit to be predicted. Complex activities are not always "responses" in the sense of repeated or repeatable events. They are composed of smaller units, however, which are repeatable and capable of being studied in terms of frequency. The problem is again not peculiar to the field of behavior. Was it possible to assign a given probability to the explosion of the first atomic bomb? The probabilities of many of the component events were soundly based upon data in the form of frequencies. But the explosion of the bomb as a whole was a unique event in the history of the world. Though the probability of its occurrence could not be stated in terms of the frequency of a unit at that level, it could still be evaluated. The problem of predicting that a man will commit suicide is of the same nature.

SUMMARY

The basic datum in the analysis of behavior has the status of a probability. The actual observed dependent variable is frequency of response. In an experimental situation in which frequency may be studied, important processes in behavior are revealed in a continuous, orderly, and reproducible fashion. Concepts and laws derived from such data are immediately applicable to the behavior of the individual, and they should permit us to move on to the interpretation of behavior in the world at large with the greatest possible speed.

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THERAPY IN SOVIET PSYCHIATRIC HOSPITALS[1]

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IN the early summer of 1950 an event of great importance for Soviet psychology and psychiatry took place. At that time the USSR Academy of Sciences and the USSR Academy of Medical Sciences were convened in joint session for "free, creative discussion" [2] of the role the "physiological theory of Academician I.P.Pavlov" was henceforth to play in Soviet physiology, medicine, psychiatry, psychology, and other more or less related disciplines such as pedagogy and physical culture (8, 9).

This was no routine meeting of scientists. *Pravda* reported all major papers in full and a large number of lesser ones in abridgement. Bykov and Ivanov-Smolenskiĭ, undeviant "Pavlovians," read the initial papers which laid down the new "line" and set the tone for the meeting (17). On the basis provided by these two men, past "deviations from the doctrine of Academician I.P.Pavlov" were discussed and condemned and a summons issued for "exploitation of the consistently materialist physiological theory which Academician I.P.Pavlov bequeathed to [native and world] science."

The major participants of the meeting publicly resolved to dedicate their efforts to rooting out past "perversions of Pavlovian theory" and to advancing the cause of "materialist, progressive science" in their respective disciplines. As its concluding act, the joint session of the USSR Academy of Sciences and the USSR Academy of Medical Sciences sent off to "that great corypheus of science, mighty Stalin," a letter pledging fealty to the "physiological theory of Academician I.P.Pavlov" and thanking the Communist Party as well as the "leader and teacher" for its interest and guidance (18).

One outcome of the "Pavlovian sessions" was the public acknowledgment of the "declarative nature" of Soviet psychiatry's adherence to Pavlovian conceptions. This situation was to be rectified promptly. However, in the Soviet Union as elsewhere there are frequently large discrepancies to be noted between published program and real accomplishment, between stated theory and everyday practice. On the basis of available literature it is, of course, still too early to gauge what the Soviet reinstatement of "Pavlovianism" has meant or is to mean in actuality for Soviet psychiatry. But it is possible to sketch briefly the state and condition of psychiatric practice for the year or two preceding the Pavlovian sessions in order to allow one to guess at the degree of effort that will be necessary to achieve a reorganization and advancement of psychiatry along Pavlovian lines.

Psychiatric practice in the USSR distinguishes at least four therapies: work therapy, physiotherapy, psychotherapy, and "active therapy" which includes therapy based in the main on chemical, electrical, and surgical methods (5, 12). Though their importance is recognized in many quarters, the first three are for a variety of reasons poorly developed; while the last greatly predominates and is widespread in application (1).

In 1949 physiotherapy made some advances, but insufficiency of equipment and lack of trained personnel continue to be retarding factors.

No advances in work therapy have been noted for 1949. Where work therapy is practiced, it is frequently assigned a secondary role and sometimes even opposed to active therapy as if the one excludes the other. Thus, the Kuĭbyshev Hospital in its annual report observes that "the application of active therapy in the hospital grows with each year [so that] one may note in 1949 the predominance of active therapy (56%) over work therapy (35%)." Banshchikov and Rapoport observe that "this important form of treatment, especially for

[1] This paper was written in the course of association with the Harvard Project on the Soviet Social System, AF No. 33 (038) 12909, Russian Research Center, Harvard University.

[2] An examination of instances of "free, creative discussion" in the Soviet Union shows that these generally come down to discussion oriented toward acceptance of a point of view set in advance, especially if the discussion is publicized to any extent. Since "Bolshevik criticism and self-criticism" are, in Stalin's own words, "requisite for the advancement of science," one notes in such discussion frequent self-culpation and a ritualized acceptance of that which is prescribed as "progressive."

chronic patients, does not occupy a rightful place among other methods."

The neglect of work therapy may be traced to a variety of factors: inadequate space allotment, overcrowding, lack of raw materials, limited personnel with requisite training, etc., as well as an "overenthusiasm for active therapy." As regards the latter, there seems to be either failure to recognize the need of simultaneous supplementary approaches to psychiatric states or, if recognized, failure to apply them.

Psychotherapy is the least developed of the listed therapies. However, it is now stated that "the application of psychotherapy [in the USSR] has been entirely insufficient" and that "recent years have clearly revealed its role in the treatment of a number of illnesses" (1., p. 46). Since the number of stable remissions claimed for active therapy is undoubtedly a partial function of the application of auxiliary psychotherapy, the neglect of the latter plus the infrequency of systematic follow-up studies on a large-scale basis make one suspicious of the statistics purporting to register the number of stable remissions obtained; especially when, in addition, there is some evidence of a too considerable latitude in the report of stable remission.

Banshchikov and Rapoport say that "at the present time the application of psychotherapy in both hospitals and dispensaries bears a fortuitous character" and that "it is frequently carried out on a low level." Rectification of this situation is argued for by appealing to the new Pavlovianism which is supposed to furnish the "necessary" theoretical underpinning and sanctioning of psychotherapy as an acceptable psychiatric technique. Thus, the view is affirmed that psychotherapy is a defensible and worth-while technique because "the importance of psychotherapy is given theoretical foundation through the physiological theory of I. P. Pavlov on hypnotic sleep, [through his theory] on the influence of cortical action [3] upon the function of the organism, etc." (1, p. 46).

The same factors which have served to hold back work therapy have operated to keep psychotherapy in a backward state (2, 13). Banshchikov and Rapoport suggest that this is also due to the "absence of superior and up-to-date manuals on psychotherapy." The fundamental reason, however, has no doubt been lodged in the official suspicion of psychotherapy as an idealist technique, being "idealistically based," and as probably contaminated with "decadent Freudian notions of the unconscious." In a society where conscious motivation is stressed and singled out for official approval, this can be fatal to the development of psychiatrically suitable therapies (7, pp. 270–272).

There now remains to consider active therapy. Grouped under this form of therapy are, in the main, insulin shock therapy, electro- and pharmaco-convulsive therapy, sulphotherapy, and sleep therapy (12). Although penicillin therapy, blood transfusion therapy, pneumoencephaly, malarial infection, vitaminization, and the like are also forms of active therapy in the Soviet Union, these are minor forms and constitute a mere fraction of it.

The last few years have seen a steady growth in the number of hospitals equipped to undertake active therapy and, presumably, an increase in the quality of psychiatric personnel and direction. Better cooperation with psychiatric institutes and clinics is also reported.

For example, in 1950 X-ray apparatus was already available in 57 psychiatric hospitals in the USSR, while the number of smaller hospitals unsupplied with electric current is fast diminishing. The stock of necessary medicaments is now more certain and, whereas in 1949 some hospitals complained of intermittent lacks of insulin since there was not enough to go around, in 1950 it is affirmed that, in spite of increased demand, only miscalculation on the part of distributing or planning organizations can account for local failures of insulin supply. However, in spite of steady improvements in both personnel and materiel, in any given hospital the number of patients undergoing active therapy during 1949 still varied by as much as 3% to 50% among the over 100 hospitals designated as equipped to undertake such therapy in the USSR.

Insulin shock therapy is looked upon with growing favor and is coming to be increasingly preferred to electroconvulsive therapy. Thus, according to annual reports, in 1949 70% of the hospitals outside the RSFSR [4] employed insulin shock therapy, as against only 61% in 1948. In 1949 of those patients treated by active therapy in the RSFSR 53.6% were administered insulin shock therapy as against 33% electroconvulsive therapy. (Sleep therapy registered only 6.9%, pharmaco-con-

[3] Read "psychic action" since *cortex* is loosly equated with *psyche* in general thinking.

[4] Russian Soviet Federated Socialist Republic.

vulsive therapy 2.9%, combined therapy such as insulin plus electroshock plus sulphozene 3.6%.) In 1950 the percentage shifted even further in favor of insulin shock therapy.[5]

Sulphotherapy enjoys considerable popularity and is employed in at least one-third of the psychiatric hospitals in the USSR. Sulphotherapy, particularly in the form of sulphozene with its heightening of temperature, has been applied chiefly to schizophrenia of long standing, and success comparable to that of insulin shock therapy on cases of lesser standing is widely claimed for it.

Abuses in the use of both sulpho- and electroconvulsive therapy have been noted and censured. In some hospitals electroshock has been freely employed for quieting excited patients, and in 1951 the Kostiushenskiĭ Hospital was put on record as having employed it tens of times on some individuals for purposes of pacification. In 1949 the administration of electroshock to children in one Leningrad hospital was halted after the subsequent appearance of epileptiform convulsions stubbornly resistant to treatment. And the employment of "preparations of sulphur not for active therapy, but only as a symptomatic method, gaining [thereby] not so much improvement of the patient's state as a temporary immobilization of disturbed patients," comes in for its share of condemnation (1, pp. 36–38).

There remains to consider sleep therapy. With the adoption of an official brand of Pavlovianism in Soviet psychiatry, "it is natural that this form of treatment (based on Pavlov's principle of protective inhibition, very effective on proper application, and without complications) cannot but become widespread in Soviet psychoneurological hospitals, especially in [these] days when the theoretical exploitation and practical application of I. P. Pavlov's theory is the fundamental problem of Soviet medicine and physiology" (1, p. 39).

In 1949 sleep therapy was carried out in 55 hospitals in the USSR, and the number has since, no doubt, increased. However, the number of patients treated by sleep therapy runs a poor third to the number treated by the insulin shock and electroconvulsive therapies.

Intermittent sleep is preferred to prolonged sleep since it is easier to provide for necessary nursing care, proper observation, and a minimum of toxicity. The favorite drug for inducing sleep is sodium amytal, the supply of which until recently has been insufficient to meet routine hospital needs.

Many cases of reported sleep therapy must be ruled out as such, since they do not approximate the physiological sleep that Pavlovian theory demands. Either the sleep is superficial or it has been substituted by a deep narcosis with toxic effects. Neither is regarded as satisfactory, since neither can exercise "protective inhibition."

The effective administration of sleep therapy is hampered by lack of trained personnel, overcrowding, absence of sufficiently isolated quarters, inadequate supplies of sleep-inducing preparations, and the like. Although these are formidable obstacles, the application of sleep therapy may be expected to increase if only to demonstrate Pavlovianization of psychiatric treatment.

Leucotomy, considered a surgical form of active therapy, was introduced into general practice in 1947 in the USSR (6, 15, 16), but by 1950 was banned by the USSR Ministry of Public Health after "special investigation" and "free, creative discussion" (14). Leucotomy was denounced as being "nihilistic in outlook," "theoretically unfounded," "anti-Pavlovian," "antipsychiatric and antiphysiological," "destructive of the functional unity of the cortex and the thalamus," "unsoviet in its approach to the patient," "monstrously cruel," "disintegrative," and "therapeutically ineffective" (3, 4).[6]

The picture that emerges from this brief sketch of psychiatric practice in the Soviet Union is not only informative, but indicative also of the obstacles to be overcome before Soviet psychiatry can be said to be Pavlovian. It remains to be seen whether the Pavlovianism decreed for it will be more than ritualistic and terminological. After all, Soviet psychiatrists are interested in curing their mentally ill as well as upholding for the record an officially approved theory. How they, then, propose to manage both is their big problem.

[5] The noted trend away from electroshock therapy is confirmed by a recent decree, sharply circumscribing the application and practice of electroshock therapy: [Decision of the Scientific Council of the USSR Academy of Medical Sciences' Division of Clinical Medicine, May 16, 1952: On the application of electroshock for the treatment of mental diseases.] *Zh. Nevropatol. i Psikhiatr.*, 1952, 52(8), 71–73.

[6] When leucotomy was practiced, proponents of the method strove to establish Soviet priority for it. Once it was put out of official favor, however, priority was ascribed to the Portuguese physician, Egas Moniz.

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PSYCHOLOGY IN MEDICAL EDUCATION[1]

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IN the U. S. there are 41 privately owned, 35 state owned, and 3 municipally owned medical schools. Of the 79, 7 are two-year schools only, providing training in the basic sciences but not including the junior and senior years of medical education. More than 26,000 students (1) are enrolled in the 79 medical and basic science schools, over 6,000 graduated as MD's in 1950–51; funds available to these schools in 1951–52 totalled 110 million dollars, and their budgets are 74 million for the year. The possibilities for the influence of psychology, through teaching of psychology in the medical schools, are easily apparent from these data.

That the psychological threshold (*zeitgeist*, 3, p. 610) for such influence is present is evident in at least four directions of activity. The Fourth World Health Assembly raised the question, "How can doctors be trained more effectively to give modern health care?" A three-point program was suggested, with the first element specifically involving the teaching of psychology to the medical student: "Let undergraduate curricula play down physics and chemistry, play up psychology, anthropology, and sociology." The other points recommended that (*a*) medical students get to know the surroundings in which the patient lives—"They might, under supervision of a trained social worker, make home visits"—and (*b*) doctors and nurses be trained to work as a team, "to study together the total care of the patient." Psychology has a significant role in education throughout this three-point program.

Other evidence is reflected in one of the *Current Trends in Psychology Series* (4). It is the fourth volume in the series but the first to deal entirely with the relation of psychology to medicine. Among the eight papers is "Psychology in Medical Education," by Carlyle Jacobsen who has been active in this field for the past twenty years. The other contributors discussed psychology and medicine, public health, experimental psychopathology, neurological research, psychiatry, gerontology, and medicine and psychology in England.

A third area of interest appeared at the 1951 APA meeting, when several psychologists in medical schools informally and tentatively proposed a workshop for mutual exchange of ideas and information among colleagues in medical education. Plans are under way to further this proposal, and active are Charles Strother, Robert Watson, Walter Wilkins, and George Yacorzynski.[2] Also at this meeting, the APA Board of Directors made recommendations for organization and procedures which brought about the formation of the Education and Training Board. One of the committees of the Board was designated, under the chairmanship of Dr. Ruth Tolman, for Psychology in Other Professional Schools; and a subcommittee, chaired by the writer, was arranged for medical schools. There are then at least four lines of evidence for increased awareness of the significance of psychology in medical education.

SURVEY DATA[3]

Copies of a cover letter and questionnaire form were sent to psychologists connected with 36 of the 79 schools. These 36 were reported by their respective medical school catalogs as members of faculty or staff in some capacity. In addition, 20 other medical schools were covered by sending the forms to a psychologist in the neighborhood of the school, someone believed to have access to the information required. This information was asked of all respondents in the following questions:

[1] Report of the Subcommittee on Psychology in Medical Schools, APA Education and Training Board's Committee on Psychology in Other Professional Schools.

Grateful acknowledgment is made to Dr. Ruth S. Tolman who stimulated this survey, to my colleagues in medical education who cooperated in this study, and to Mrs. Barbara F. Richman and Mrs. Norma J. Wamsley for their help in this presentation.

[2] Further, W. J. McKeachie, program chairman of the Division on the Teaching of Psychology, invited Louis D. Cohen to organize for the 1952 APA meetings a discussion group on the topic of content of psychology courses for medical students.

[3] The data do not include information from catalog listings because of their unreliability. However, in the summary an over-all view is presented to make more comprehensive the survey and to afford an estimate of the situation in schools from which we do not have firsthand reports. Twelve of the 34 school catalogs listed no psychologists.

1. How many psychologists are on your medical school staff: Full time .....? Part time .....? Please list their names, degrees, and faculty or staff titles.

2. What are the present activities of these psychologists on the staff of your medical school?

3. What text books in psychology are used, if teaching is one of the activities?

4. How adequate and satisfactory do you consider: (*a*) Present activities of psychologists in this setting? (*b*) Currently used text books?

5. On the basis of your information, can you make recommendations for: (*a*) Improvement in such programs? (*b*) How to accomplish extension to other medical schools?

The 56 questionnaires were mailed early in December, 1951, and by mid-January, 1952 there had been returned 45, an 82 per cent return, covering 57 per cent of all the medical schools in the U. S. Nine of the schools (20 per cent of our returned sample) reported no psychologists on their faculties.

The data were analyzed along several dimensions to obtain a picture of the role of psychology and psychologists in medical education. A study was made of the highest degree earned, the years these were attained, and full- or part-time activity on medical school faculties. Eighty per cent of the full-time and the same proportion of part-time faculty members have taken their degree within the past decade, suggesting a relatively young group. Of those with degrees earned up to and including 1941, 20 (69 per cent) are diplomates in clinical psychology; of the younger group only 4 have ABEPP diplomas, less than 4 per cent of their total number. The PhD degree and five years of experience, or equivalent training and experience, required by ABEPP may account for the difference at least in part. All but one of the older sample are APA members, while in the younger group only 84 per cent belong to APA.

Of the 143 psychologists on medical faculties only 56 per cent are employed full time by the schools. Black's survey (2) of a 50 per cent sample drawn from the 1948 APA Directory reported that 70 per cent of the psychologists in academic work are employed full time, 25 per cent greater than in our sample. Black further reported that 51 per cent of the full-time academicians surveyed had PhD's and 19 per cent had MA's; with 19 per cent of the part-time sample with PhD's and 13 per cent with MA's. The respective per cents for our sample are 61, 25, 49, and 35. Whereas in Black's sample, PhD's did 75 per cent of the academic work and 39 per cent of the clinical, our PhD academic clinicians, or clinical academicians, as you will, represented 61 per cent; and Black's MA's did 23 and 56 per cents, respectively, compared to our 25 per cent. Over all, 56 per cent both of Black's and of the present sample have PhD's, 40 per cent and 29 per cent have MA's, respectively; and only 4 per cent of Black's 2037 sample but 15 per cent of our 143 sample have "other" degrees.

Although APA membership is not necessarily a prerequisite to employment of psychologists, whether in medical schools or in other activities, it is of interest to study this characteristic in our sample. Sixty-four per cent are APA members. Of the 91 who belong to APA, 21 are Fellows and all have divisional affiliations; but of the 70 Associates only 40 have such divisional as well as APA membership. As would be expected, the largest proportion of affiliation is with Division 12—38 per cent of the 124 belong to it.

Although comparable data are not available for medical school faculties in other professional fields, or for psychologists in other activities, we studied the sex ratio in our sample. The ratio was approximately the same among both full- and part-time faculty, with 64 per cent of the sample male.

A significant factor in the role of psychology in medical education is the prestige attained by psychologists who represent our professional field. One of the symbols of prestige in the academic world is the rank accorded an individual by his college or university. The distribution of academic ranks and titles among our sample of 143 psychologists in medical schools revealed that the greatest discrepancy lies in the full professor category and in the "other," the latter principally because of the large number (24 per cent of the total) of our colleagues who are called "psychologists," without academic rank. Forty-six per cent of psychologists in medical schools hold academic rank of instructor or higher, while 82 per cent of their colleagues in other academic fields do as well, and among the latter the higher ranks, particularly full professor, are much more frequent (33 per cent of Black's sample, only 6 per cent of the present sample).

Turning now to the activities of these 143 representatives of psychology in 36 medical schools, we find that they practice the clinical triad of teaching, service in both diagnosis and treatment, and research. In 31 schools courses in psychology are taught to medical students, in 16 to psychiatric residents, in 12 to nurses, in 9 to graduate students of psychology, and in 5 to medical interns and to other professional students. Diagnostic services with both hospitalized and outpatients are provided

by psychologists in 26 schools, in 18 research is a major activity, and in 12 psychotherapy is offered. The course titles varied widely: child development, medical psychology, experimental method, psychometric methods, psychopathology, behavior theory, quantitative methods, research, application of psychological testing, and principles of psychology. The texts used also varied widely: 21 schools used none, and no single text was mentioned by the other 15 schools more than twice. Several psychologists commented on the need for an adequate text of psychology for use in medical education.

Questions 4 and 5 of the questionnaire were designed to produce responses which would give the committee information on opinions of our colleagues in medical education, opinions on current and future activities—diagnosis and prediction of the role of psychology in medical education. Psychologists in 18 of the 36 schools reported as adequate their activities, 8 felt theirs were inadequate or unsatisfactory, and 10 did not comment. Five respondents saw a need to better integrate their programs into the medical school curricula; 8 urged the necessity of understanding the importance of "selling" psychology by quality of its services and by increased attention to public relations between psychology and medicine in all branches; and 11 colleagues wrote that more, and better-trained, psychologists would do much to satisfy the demands of medicine as well as to improve relations with psychiatry and other branches of medicine. Seven of the 36 schools described current plans to enlarge the physical facilities available to psychology, and to increase the number of staff.

SUMMARY

This report summarizes a survey of the teaching of psychology in 79 medical schools in the U. S., including the 7 basic science schools which do not go beyond the first two years of medical education. Questionnaires about the number and activities of psychologists in medical education, and their opinions on these factors, were sent to 56 psychologists. Of these, 36 were on medical school faculties, and others were geographically near medical schools. Forty-five questionnaires were returned; the remaining schools were surveyed by examining their catalogs. Nine of the 45 respondents reported no psychologists connected with the 9 schools, and 12 of the catalogs listed no psychologists. Thus, 73 per cent of the medical schools in this country have psychologists on staff or faculty.

Among 58 schools (cf. footnote 3) there are 255 psychologists, 130 of whom are full-time members of their faculties. These are relatively young, chronologically and/or professionally, for 73 per cent earned their highest degree within the past decade. In general, the level of formal training of our sample is of the order of that reported by Black (2) in his survey of 1949. Black's study of an APA sample suggests a look at APA membership in the medical school sample. About 7 in 10 belong to APA, and of the 69 per cent who belong, 31 per cent are Fellow or Associate in the Division of Clinical and Abnormal psychology. Further comparison of Black's data and those in the present study indicates that many fewer psychologists attain rank of professor in medical schools, less than 10 per cent as compared to 33 per cent in other academic psychology.

Finally, 18 of the 36 respondents on medical faculties reported their activities as adequate, 8 felt theirs were inadequate or unsatisfactory, and 10 did not comment. Five respondents saw a need to better integrate their programs into the medical school curricula; 8 urged the necessity of understanding the importance of "selling" psychology by quality of its services and by increased attention to public relations between psychology and medicine in all branches; and 11 colleagues wrote that more, and better-trained, psychologists would do much to satisfy the demands of medicine as well as to improve relations with psychiatry and other branches of medicine. Seven of the 36 schools described current plans to enlarge the physical facilities available to psychology, and to increase the number of staff. On the whole, these data represent an initial source of information about the teaching of psychology in medical schools.

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Comment

Life Membership

Persons who are sixty-five years of age and who have been Associates or Fellows of the APA for twenty years can become Life Members by requesting that status. Life Members pay no dues but retain all the other rights of members, except that they may not receive the publications of the APA free. They may, however, purchase the publications at the reduced rates that apply for members, and, as a matter of fact, they do at the present time receive complimentary copies of the Directory and the *American Psychologist*. Life Members are not under the present By-Laws eligible for election as President-elect, but that omission is probably an oversight and it is also a right that would be but rarely exercised. (William James was elected President of the APA for the second time in 1904 when he was 62, Stanley Hall for the second time in 1924 when he was 80.)

A problem about Life Membership arises because it is a status obtained only by a member's request. Does such a request imply indigence or desire for inactive status? If so, many will not apply. Should Life Membership perhaps be conferred as a recognition of the member's past service in the APA? Would such recognition, given without the beneficiary's initiative, be desirable?

At present (1 January 1953) there are 104 Life Members. The distribution of their ages (omitting three with unknown ages) is as follows:

90–94:	1	75–79:	22
85–89:	5	70–75:	27
80–84:	6	65–69:	40

Who are they? They were all known in the APA, many of them well-known, at some time, and some still are. I (aged 66) "know" (can identify, have corresponded with or talked with, have read papers by) 73 of them and I recognize the names of 12 more, leaving only 19 who are mysterious to me. Nine of them were trained for the Army with me at Camp Greenleaf in 1918, but four of those nine I have not heard of in years. Still all of them have been paying their steadily increasing APA dues for twenty, thirty or forty years. The Dean of the Life Members is W. L. Bryan, who paid dues for 52 years. He was present at the organization meeting of the APA at Clark University on 8 July 1892. He is now ninety-two, still interested in psychology, enough to correspond with Wayne Dennis about that 1892 meeting and to fill out his questionnaire for the 1951 Directory.

Perhaps we have here an index of active interest in APA affairs. Does the Life Member return his questionnaire for the Directory? Sixty-five of the 104 (63%) did, as compared with 80% of the entire membership. So age is not so much less ready than youth to participate in the APA's affairs.

Since 1892 the APA has had 126 officers (Presidents, Secretaries, Treasurers, Directors, members of the old Council). Of these 31 are living, are still members of the APA, and are 65 or over. Two years ago 10 of them were Life Members and 18 of those eligible for Life Membership were Fellows. A year later 18 were Life Members and 10 of those eligible were Fellows. Now 26 are Life Members and 8 are Fellows, including the 5 who have just turned 65. Some of those who have recently requested change of status did so because I reminded them of the possibility by corresponding with them about the nature of Life Membership.

Let me summarize a complicated correspondence that I had in the fall of 1951 with 18 of these past-officers. Some of these men felt that it was natural to request Life Membership when they became eligible and that no opprobrium was attached to the status. They either were already Life Members or were about to request the change now that they had been put in mind of it. Those 65 or over who were remaining Fellows did so because they did not wish to imply a desire for professional inactivity, or because out of loyalty they wished to continue to participate in APA affairs, or because out of loyalty they thought they should pay dues as long as they could afford it, or because (but these men were under a misapprehension) they wanted still to receive the APA publications. No one said he would be embarrassed by confessing gerontic indigence, but some with adequate means after retirement said that they thought they should continue to pay dues if they could afford to. I think, however, that sentiment during the past year may have changed somewhat, for six of these older men have now requested Life Membership and of the eight past officers who are now 65 or over and who are still Fellows, five have only just turned 65 and only three are over 70.

There was in 1951 a very general sentiment in favor of making Life Membership automatic at age 65 and after 20 years of service. To be obliged to request this status for some persons carries implications—incorrect ones, perhaps—that are unnecessary. Why not let all members become emeritus when they have met the prerequisites of age and service?

That thought leads you to the actuarial tables. Suppose now that the APA were to reach a steady state at 10,000 members—a convenient number, although at present it must be at least a thousand beyond it. Imagine the APA's staying constant at 10,000 for 80 years,

and assume that resignations occur by death only, that elections are at age 30, and that ¼ of the members are women, who have, of course, longer lives than men. (The APA used to be ⅓ female. Lately the new Associates have been about ⅕ female. The APA survey of May 1952 shows the APA as 27.6% female.) This model would elect 222 new Associates at age 30 every year, it would have 7,854 members at age 40 or over, 5,956 at 50 or over, 3,947 at 60 or over, 3,017 at 65 or over, 2,165 at 70 or over, 816 at 80 or over, 132 at 90 or over, and 2 at 100 or over. The oldest average member would die at 102. Would 6,983 members of a 10,000-member APA be willing to support free the other 3,017 members, giving them a vote without dues and probably without free journals? The arrangement seems improbable. It is not an impossible social pattern but it is somewhat too gerontocratic for democratic America.

To avoid this difficulty I ventured in 1951 to suggest to my fellow geronts that the Life Membership class might be limited to a certain proportion of the membership (say, 200 out of 10,000) and that older members, qualified by age and service, be elected to the class in recognition of exceptional past service to the APA. This suggestion brought out a clearly negative response. Let us not, said the voice of democracy, have yet another honor (mixed in with the difficulties of adjustment at retirement) for people to feel badly about not getting. Some thought that Associates might be shut out from Life Membership, which could then be given automatically to Fellows. Others that an Associate who has been active enough to pay dues for twenty years ought to be able in his old age to settle down in emeritus status and not be forced out of the APA by his dwindling income.

We have, of course, no way of predicting whether our annual horde of new Associates will presently get advanced to be Fellows or whether they will stick with the APA if they do not get advanced. Only seven of the present 104 Life Members skipped being a Fellow, each having remained Associates from 20 to 24 years, but this datum proves little since Associateship has been in existence for only 26 years. It is true that there have not as yet been many resignations of Associates, either by self-action or from being in arrears for dues, although the recent increase of dues after the first five years may discourage Associates from standing by for 20 years. There is also the fact that large numbers of the new Associates did not cooperate with the APA by returning the questionnaire for the 1951 Directory. Just how enthusiastic are these new Associates? If the APA eventually reaches a steady state, there will certainly be many resignations for reasons other than death, and its age-distribution will drop from age 30 much more rapidly than does the life-expectancy curve. A 10,000-member APA would thus not have 3,000 Life Members, but even 1,000 would seem to be too many, would they not?

Few of us realize how young the APA has become, how the recent influxes of Associates have packed the APA with youth. Compare the two columns of frequencies below. There the column for "APA Population" gives frequencies proportional to the actual sorting of the sample of 6,560 APA members made in May 1952, adjusted to a base of 10,000 members at age 30. The column for "Life Tables" gives the modern actuarial figures for a population of 3 men to every woman for 10,000 persons at age 30.

Age	N at age x and older		Age	N at age x and older	
x	APA Pop.	Life Tables	x	APA Pop.	Life Tables
20	12159	10070	65	224	3017
30	10000	10000	70	102	2165
40	4866	7854	80	15	816
50	1911	5956	90	2	132
60	576	3947	100	0	2

There shines the measure of our adolescence! Where are our two centenarians? We have none. Where are our 132 nonegenarians? We have only one in fact and would have only two on this 10,000 base. Actually the APA has now considerably more than 121 persons who are 65 years old or older, and of them 104 are Life Members. If we had 10,000 members at age 30 and resignation occurred by death only, then we would have 3,017 members at 65 or over. The future frequencies are not, however, to be predicted from present frequencies, nor from the life tables either. There is already a new social dynamic within the APA and no one can say how it will affect future resignations. Certainly the present By-Laws, written with democratic generosity, could lead, if few of the new members resign and all eventually claim their rights, to a gerontocratic imbalance. What should we do?

To me it seems that there are two possible conservative actions. One is to leave well enough alone for the present. When only 10 of 28 eligible past-officers had chosen Life Membership, the status seemed fairly unattractive. Now that 23 out of 31 have preferred to assert their gerontic rights and there are only 3 past-officers over 70, it may be that the odium attached to this status is evaporating. It would, of course, still be possible to have a thousand or even three thousand members in due time choosing so desirable a status for the aged, but the increase would be slow and an alarmed electorate would have plenty of time to change the By-Laws.

The other possibility is to make election to Life Membership automatic. If too large an emeritus class is feared, then the term of service could be increased to 25 years. Perhaps the age threshold could be in-

creased to 70, but in that case I think the Board of Directors should be empowered to make exceptions. They would make them for the man whose income is greatly diminished before he is 70. My own preference would be for us to keep the age at 65 and not to exclude Associates, becoming more aristocratic later if it is necessary.

The Divisions need to look to their own By-Laws, for some Divisions ignore Life Membership. So far no Fellow has been excluded from a Division because he became a Life Member, but a Fellow contemplating change might hesitate if he scrutinized his Division's By-Laws.

Fortunately there is no great hurry about getting this matter settled and a preliminary adjustment made now could be changed again later. Even in efficient America we have not learned to grow old faster. In fact we have actually learned to slow that process down.

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Harvard University

Medical Acceptance of the Clinical Psychologist in Private Practice

It is my belief that every clinical psychologist in private practice has experienced and continues to experience the unpleasant situation of the medical practitioner ignoring the clinical function of the psychologist in favor of the psychiatric handling of the case. The tradition and the ethics of the medical profession have been to confine referral of cases to fellow medical practitioners. Now comes the clinical psychologist who declares himself to be a competent and qualified person for the handling of the emotionally ill patients and expects to obtain the physician's acceptance of his status. But with very few exceptions, the physician turns to specialists in his own profession for desired psychodiagnostics or psychotherapy.

In order to examine this situation systematically, I undertook the task of interviewing 100 physicians on a random basis in the city and county of Los Angeles. I felt that the most adequate approach would be one based on an informal interview which would allow for a free, spontaneous, and nonprotective behavior on the part of the physician. The results were essentially as follows:

1. In every instance, the doctor's reception was courteous and respectful.

2. In almost all instances, the physician took time out from his practice to engage in a friendly discussion.

3. Although my calling card indicated the status of "clinical and child psychologist," in not one single instance of the 100 calls did the physician show recognition of the term "clinical," but instead initiated the conversation on some aspect of child problems.

4. About 50 per cent of the doctors asked about the required educational training of the clinical psychologist. Virtually all were amazed that the years of training approximated that of the medical profession.

5. Characteristically, the medical attitude was one of regarding the clinical psychologist as a "testing" practitioner rather than as a psychotherapist.

6. In all of the contacts, the impression was strongly gained that the physician knew few, if any, details of any specialized training for the psychiatrist; the general attitude prevailed that since the psychiatrist was an MD, he was obviously competent.

7. In only one instance did a physician raise a direct question relating to the comparative qualifications of the psychiatrist and the clinical psychologist. His question was: "Just what can the clinical psychologist do that the psychiatrist cannot do?"

8. Only one case out of the 100 showed an initial recognition and appreciation of the competency of the clinical psychologist. This was a neuropsychiatrist whose training was at the Menninger Clinic and whose relationships with the clinical psychologists at that institution were quite extensive.

On the basis of these results, it is evident that the clinical psychologist occupies a most difficult position in terms of his professional status in private practice. Everyone knows what a dentist does; everyone knows the function of an architect or an attorney. Yet we have here the situation of a highly trained professional person in private practice and virtually no one knows for what purpose he exists. The layman does not know. The one profession which most urgently needs to know also does not know. I often wonder whether we ourselves, as psychologists, actually know?

Let us evaluate point 7 above, the direct question raised by the physician, a neurosurgeon, "Just what can the clinical psychologist do that the psychiatrist cannot do?"

How many of us can answer that question? Until such time as we undertake to make our specific qualifications known, there cannot be a profession of clinical psychologists. And as to the designation of clinical psychologist, we are dealing with ambiguous terminology. Etymologically, the word *clinical* refers to bedside or hospital. Obviously the designation arose from early work in the psychological clinics, but to use the classification of *clinical* in relation to private practice conveys no significance either to the man in the street or to the physician.

Similarly, the term *psychologist* is also open to question. Although we like to define psychology as the science of human behavior, let us not overlook the fact that the word *psychologist* in its technical sense still means the science of the mind or the science of mental

operations. It is therefore no small wonder that we are regarded simply as mental testers.

If we were to attempt to depict the actual work of the clinical psychologist in private practice we would need to indicate that it is the irregularities of the personality with which we are concerned. Therefore, logically, we do not deal with the mind or mental operations. If we wish to become more specific, we would have to say that the clinical psychologist in private practice is concerned with the science of human emotions and their disturbances. If we made use of a term which would actually tell the public what we do, we would be inviting more direct interest in and appreciation of our specialization.

There exists a further and perhaps more serious disadvantage to the retention of the present terminology. Those of us who have been in private practice for some time have already become acquainted with the chronic problem of the physician being unable to succeed in his referral of a case to a psychologist. Because of traditional factors in the practice of medicine and the lack of recognition and understanding of the qualifications and competency of the clinical psychologist, only a trickle of medical referrals is being made to us. We have a major problem even with this trickle.

The dilemma is something like this: The physician who appreciates the functional nature of his case and who happens also to appreciate the work of a clinical psychologist, will make such necessary and suitable referral. But the physician characteristically tells us that it is precisely at this point that his patient "freezes up." The patient regards it as an insult to his intelligence to be referred to a psychologist. "What is the doctor trying to say? That I am out of my mind?"

We like to call this attitude one of resistance and let the matter drop. But if we were to examine the patient's emotions, we would detect some method to his madness. To the patient, the word "psychologist" still means a person who treats the mind. And, after all, is he not right? That is exactly what psyche-logos means. Therefore why should the patient permit his ego to sustain a serious injury? From the patient's point of view, his symptoms are quite real. He is in actual physical distress or he feels that he is in distress. To say to him that what he needs is a psychologist is only further to choke that bit of life which is left to the clinical psychologist in private practice.

It would therefore seem that there is an urgent need for a necessary revision of the present classification of clinical psychologist to a terminology which would be more appropriate to the functions of the psychologist in private practice. Some such terms as medical psychologist, behavior pathologist, emotionologist, or possibly, psychopathologist might be utilized in lieu of the current designation.

Of particular significance is the very encouraging report currently released by the California Medical Association committee on the licensing of clinical psychologists. It states in part:

> Our investigation has shown that the adequately trained clinical psychologist in private practice is a highly trained and skilled person. He has a clear appreciation of his medical limitations. He has a desire to cooperate with the medical profession and generally has high ethical standards and professional attitudes that are trustworthy.

As far as it can be determined, this report marks the very first instance of official (California) medical recognition of the status of the clinical psychologist in private practice. Its contribution to clinical psychology lies not only its support of state licensing, but in its singularly informative character for physicians in the State of California. Ironically, it has performed a task which has been scandalously neglected by our own profession.

The following recommendations are set forth as measures to promote the progress, let alone the survival, of the clinical psychologists in private practice:

1. That we effect accessibility to national and county medical journals for timely publications of papers relating to our research and performance in the psychosomatic field and other psychopathological areas.

2. That we develop and distribute to the medical profession necessary literature indicating the specific clinical functions of the psychologist, psychodiagnostic and psychotherapeutic.

3. That we seek to obtain our ends by positive and not by negative measures. It is important for us to demonstrate our competence and not to demonstrate the other fellow's incompetence.

4. That we arrange meetings of clinical psychologists in private practice for the presentation of papers, with a view to the establishment of public interest in and appreciation of the functions of the clinical psychologist in private practice.

M. J. FREEMAN
Los Angeles, California

Miller Analogies Test Scores and Ratings of PhD's in Psychology [1]

Pooled ratings of 51 Minnesota PhD's in psychology (1935–1950) were obtained from graduate faculty members on the following three characteristics: (*a*) Intellectual competence; (*b*) Research capacity; and (*c*) Administrative, clinical, or service competence. The ratings were assigned values from 1 (low) to 5 (high).

[1] This note is based upon a research paper by Gordon V. Watters entitled "Evaluation Study of Minnesota PhD's in Psychology," dated June, 1951 and on file in Professor D. G. Paterson's office.

The number of faculty members submitting ratings totalled 15. The number of male PhD's was 41 and the number of female PhD's was 10.

The distribution of Miller Analogies Test, Form G, raw scores was as follows:

Class interval	Frequency
95–100	2
90–94	6
85–89	16
80–84	13
75–79	3
70–74	6
65–69	2
60–64	1
55–59	2
Total	51

The following statistical constants were obtained:

	Range	Mean	SD
Miller Analogies, Form G, raw score	56–97	81.6	9.1
Ratings on intellect	1.6–5.0	3.7	1.5
Ratings on research	1.3–4.9	3.0	1.7
Ratings on service	2.0–5.0	3.8	1.3

The following rank-difference correlations were obtained:

	Rho
Correlation between Miller scores and ratings of intellect	.50*
Correlation between Miller scores and ratings on research	.27
Correlation between Miller scores and ratings on service	.17

* Significantly different from zero. $SE_{rho} = .14$. Rho is 3.57 times its standard error.

Contamination of obtained correlations is possible but not probable. Miller test scores are generally available only to the advisor and are scrutinized primarily at time of admission as a graduate student. Candidacy for PhD is based on cumulative record of the graduate student in graduate courses for one or more years. Great difficulty was experienced in locating the Miller test scores, many of them not being recorded in the advisor's records, and they were discovered only by tracking them down in the records of the Student Counseling Bureau. The fact that little or no correlation was found between Miller test scores and ratings of research capacity and of service competence suggests that the "halo effect" in ratings was not present to any marked degree.

These data show that there is a moderate but statistically significant positive correlation between Miller Analogies raw scores (+ .50) and pooled ratings of intellectual competence of 51 PhD's in psychology at Minnesota from 1935 to 1950. This correlation exists even though PhD's represent a highly selected group which is far more homogeneous in intellect than college students or, for that matter, the general run of graduate students, the bulk of whom drop out prior to admission to PhD candidacy or to completion of all of the requirements for the PhD.

The correlation between Miller scores and ratings on research competence for these same 51 PhD's was + .27 and the correlation between such scores and ratings of service competence was even less (+ .17). These two correlations were not significantly different from zero.

GORDON V. WATTERS
DONALD G. PATERSON
University of Minnesota

Protest against Publication Charges

I wish to protest against the Publication Board's recommendation to charge authors a flat per page rate for publishing in the psychological journals (*American Psychologist*, 1952, 7, p. 552), and against any of the recommended solutions for publication finances which place the financial burden upon the author. Such an action, it seems to me, could have but one result—the criterion of publication would be the size of one's income or the number of government contracts one has, and not the quality of the research itself. It conceivably could result in the loss of some good articles and increase the chance for poorer articles because of reduced competition. This does not seem consistent with our scientific ideals; any hindrance to the publication of worthy articles will have the same effect as regimentation of research activities. Before it results in this, I urge the use of whiskey ads if no other source of advertising revenue is available.

CHARLES W. SIMON
The Ohio State University

Sundry Suggestions on Divers Publication Issues

1. All professional journals that do not do reviewing (or even listing) of new books should carry a continuing announcement to that effect conspicuously placed on the editorial page or on some other page where the notice will be easily seen by authors and by publishers. Many journals in psychology, education, and other disciplines regularly receive review copies of books although they do not publish reviews of the books received and frequently do not even list them. I agree with one of the large publishers that this practice is highly improper, not to say unethical, and unfair to both the authors and the publishers, and should be discontinued. Publishers have a right to object to donating in the aggregate every year many hundred books that are received under false pretenses. The practice

seems to me to be dangerously akin to receiving property under false pretenses, for one of the services subscribers have become accustomed to expect on their investment from scientific journals is a prompt listing of new publications and an analysis and unbiased evaluation of them by a competent authority.

2. Writers, bibliographers, and reference compilers should always give at least one given or Christian name of the authors in order to indicate the sex of the contributor. Publishers of books and articles should require this as a minimal essential. This desideratum usually is not important from the standpoint of the value of the contribution, which should be judged purely on its objective merits irrespective of sex; but it is very embarrassing to have a graduate student, or an instructor, refer to the author of a book or memoir he is reviewing as Mr. Brown when the author is a woman, or vice versa. Moreover, many writers have the same initials, even when the given names are different, which sometimes makes it impossible to determine the "who's who" of the authorship without extensive foraging. For years I have followed the consistent practice of giving in citations whenever possible one Christian name. But to achieve this I have during the last five years, devoted largely to reading and writing, spent hundreds of hours in trips to libraries and in ransacking publications in the wearisome effort to be consistent in giving one of the authors' Christian names, all because they were not revealed in the original publications or in the secondary sources on which I have had to depend in the absence of the originals. Worse still, the laborious search has sometimes proved fruitless.

3. Bibliographic references should contain not only the year, volume, and pagination, but also the month of publication. The pertinence of this suggestion is indicated by at least two considerations: (*a*) The month of publication is needed to determine the exact priority of articles published in the same year. I have been confronted with this problem again and again, in the effort to present contributions chronologically, in certain fields in which many articles have appeared in the same calendar year. (*b*) Students find it easier to locate articles assigned for reports when the month is given by the instructor in addition to the year and pagination. In oral assignments students almost always retain the month correctly, whilst the volume number is frequently not retained if the notebook notation is unclear. Here, too, I have often been frustrated in the attempt at consistency because the bibliographic reference failed to disclose the month, and because the binders had torn out the monthly title page from the bound volume.

This suggestion is, fortunately, followed in a number of bibliographies, such as the *Bulletin of Current Literature* published by The National Society for Crippled Children and Adults, the *Quarterly Cumulative Index Medicus*, the *Current List of Medical Literature*, *Readers' Guide to Periodical Literature*, the *Education Index*, *International Index to Periodicals*, the *Agricultural Index*, and others. It is recommended that *Psychological Abstracts* adopt the pattern set by these indexes.

4. This statement was finished before the valuable, meticulously documented APA Publication Manual reached my desk. This document does not embody all the recommendations made herein. The practical difficulty in the attempt to conform to the APA requirements is that all journals in psychology, education, and psychopathology (as well as book publishers) do not follow the same style pattern, and the writer frequently does not know at the time of composition whether he will submit the manuscript to journal A or journal B, or publisher C or publisher D. If the manuscript is returned by journal A for reasons other than style, it may subsequently be returned for revision by journal B purely because its style does not conform to that used by journal B. The retyping of a whole manuscript merely to make it conform to an arbitrary style pattern—a minor detail—may impose a heavy burden on an overworked contributor, especially if he must do his own typing. Is there any justification for such conformance to criteria that are purely arbitrary, especially when the author has provided the essentials of an acceptable citation? Excessive scrupulosity with respect to minor mechanical details may easily become a vice instead of a virtue. The important thing is that the author adheres to his own style pattern, provided it is adequate. The danger in the field of authorship is that too much regimentation may easily degenerate into bureaucratic autocracy, bossism, or totalitarianism, and that the springs of productive spontaneity and initiative may be stifled by authoritarianism in the field of mechanics. To reject an article purely because of mechanical imperfections, real or imaginary, is worse than folly.

J. E. WALLACE WALLIN
Lyndalia, Delaware

Across the Secretary's Desk

Diary of an Executive Secretary

Tuesday, January 6, 1953

8:45 Arrive at new building. Immediate parking in our own garage. Convenient *and* legal.

8:46–9:15 Walk through whole building just for fun. Everybody working but still not completely unpacked. Nest-making still in progress. Talk with electrician about proper sized light bulbs in foyer. Tell him I'm a heliophile but to see architect. Talk to Back Order girl about more shelves for her stock. Talk to addressograph operator and carpenter about more storage cabinets for addressograph stencils. Over 1,000 new members. Talk to telephone man about date we can have regular telephone service; two more weeks of our temporary lash-up. Look in the Board Room to see if it's still as handsome as it was last night.

9:16 Call Jerry Carter, Chairman of House Committee, to ask about spending money for extra shelves and cabinets. We agree on necessity of expenditures. Few more dollars not a j.n.d. Needn't check it with whole Committee. Gossip about things in general, especially members' reactions to new building. No psychologists yet who don't like walnut parquet floors—if they come at a bargain price.

9:25 Start answering yesterday's mail. Accept R. S. Woodworth's application for Life Membership. Explain to irate member that the *Psychological Bulletin* really does not cost her $4.00 a year. The dues bill has to say that. It's a bookkeeping charge; the *Bulletin* is sent to all members as a service; not universally wanted but probably much more widely wanted than many other APA services. Letter to C. M. Louttit concerning a possible new format for *Abstracts;* may save us $1,400 a year. Letter to Advisory Editors of *American Psychologist* asking about publication of a comment item on controversial issue. Letter to unhappy member about increase in dues for those who have been Associates for five years; it seems more decent, one argument goes, if Fellowship status does not come with a price tag. Letter granting Foreign Affiliateship to member of British Psychological Association.

9:59 Two young local members come in to pay their dues in person. Give them the 75¢ tour of the building. Very curious about way members react to the place. These seem to identify immediately, pay their dues happily.

10:09 Back to mail. Letter to Science Press asking when *Ethical Standards of Psychologists* will be ready for mailing. Letter to member rejecting manuscript for *American Psychologist;* good article, good research, too specific for general reader. Sorry. Letter to hotel in Dallas; thanks for invitation to hold 1956 meetings there.

10:28 Telephone call asking if we've decided to buy the large or the small waxing machine for our floors. Smaller one. Wiring shouldn't carry 30 amp. load.

10:29 Long distance call from member in New York asking for envelopes addressed to all APA members in State. Want to announce NYSPA meeting. Things are very crowded here now. Moving and recoding. We'll try. Probably have to charge for overtime. Okay.

10:30. Appointment with two gentlemen from small national organization. Want to rent about 600 sq. ft. on our fourth floor. Tell them the price our advisors say we should get. Tell them also we are advised to try to rent fourth and fifth floors all together. The fewer the tenants the simpler the landlord's life. Pleasant talk. No concrete proposals. Both gentlemen seem properly impressed with psychology's building.

11:00 Go down to new kitchen for a cup of coffee. Nice to drink out of a cup with handle still intact. Watch two men install Coca Cola machine. Plenty of caffeine for all. Profits from coke machine may run coffee mess.

11:15 Visit with George Albee. Talk about having regular staff meetings. Everybody so spread out now we probably need to formalize things so people can stay acquainted with one another. Lorraine Bouthilet passes by and gets roped into conversation. Agrees it's a good idea. Let's start next week. Coffee for all in the Board Room!

11:45 Interior decorator drops in. Ask him when furniture is coming for Bruce Moore's E & T office. Ask him if I can please have a small filing cabinet in my office so I don't have to pile papers on the mantelpiece. He says sedate two-drawer file wouldn't ruin decor.

12:00 Leave for lunch at Cosmos Club with Conrad Taeuber, Treasurer of American Sociological Association and Secretary of Division K of AAAS.

Talk about many things including the sociology of organization. How do you know when an organization is really functional? No answer but good questions. And good food.

1:15 Real estate agent calls. Says he knows our new building is not for sale but he has a client interested in property like this. Wants to show the building. May get an offer that interests us in spite of the fact we have just moved in. Sure, bring your client over. Doubt if our Board will be at all interested in selling but no harm in asking. Appointment at 2 P.M.

1:20 Read morning mail. Letter from Roger Barker talking about Division 7's move to appoint a Policy and Planning Board to study the Division's function. Letter from member expressing general approval of *American Psychologist*. Letter from member expressing disapproval of *American Psychologist:* too expensive in paper and format. Letter from Herbert Conrad opposing idea of printing two or more *Psychological Monographs* in one cover but suggesting we may save money by mailing several monographs together. Letter from a member concerning a fellow with a PhD in music and no training in psychology who is engaging in psychotherapy and advertising himself on match folders. What can APA do? Letter from President Shaffer concerning a case referred through him to the Committee on Scientific and Professional Ethics and Conduct.

1:37 Call from Glen Finch about meeting of Committee on Public Relations on January 8. Please confirm with Rains Wallace, Chairman.

1:39 Telephone man. Would I please move my desk over so he could pull wire here in this corner. Sure.

1:39½ Long distance call from Donald Marquis about a Boston meeting of Joint APA–CPA Committee to plan the Montreal International Congress of Psychology.

1:40 Back to morning mail. Letter from R. M. Yerkes sending New Year's greetings and a handsome gift to the Building Fund. Letter from Gregory Razran asking about a very nice plan for getting APA publications to the Hebrew University in Jerusalem. G. K. Yacorzynski sends in a contribution to the Building Fund. (A total of about $4500 has been contributed so far.) A bill for 1952 rental of space in the AAAS building. A letter from Howard Mitchell concerning finances of Committee on Relations with Social Work Profession. Letter from Hobart Mowrer concerning suggestion for outside speakers at the 1953 meeting.

2:05 Electrician requests I move my desk thataway so he can install wall light. Okay.

2:10 Real estate man brings in his client—the 12-man Board of Directors of a large nonprofit association. The $1.25 tour. Lots of questions. No comments. Very thorough look.

2:38 Cal Shartle stops by to see building and to talk over APA business matters. Also the big things. How can psychology relate more meaningfully with such people as economists and political scientists? Also, why are economists and political scientists frequently called to high-level administrative posts in government while psychologists are not? No good answer. And no good reasons why psychologists should not be top advisors to government officials. Let's fix it. How?

3:45 Lee Cronbach and J. W. Macmillan drop in. Cronbach in town on business, wanted to see the building. Especially interested in Board Room table given by Midwestern Psychological Association.

4:10 General confab with Shartle, Cronbach, and Macmillan. Refreshments. What effect will new building have on public perception of psychology? What sort of personality change will fancy office produce in Executive Secretary?

4:31 Real estate man calls. Would I tell him if our Board likely to be interested in an offer that would give us a nice profit on building. He can get one. Can't say what Board will say. I'm just a middleman. Two members of Board here now. I'll ask them. They say probably not. We're not in real estate business. Couldn't ask Central Office people to move again right away. Can't tell what rest of Board might say.

4:35 Visitors continue talk. Very interested in fact we can get an offer for more than we have put in building. Nice coincidence that offer comes while treasurer is in the office. All agree it will be good for Board's morale to learn that the building will sell for a good deal more than it cost. Let's see what happens.

4:49 Sign today's letters while still visiting.

5:38 Lee Cronbach remembers he has to catch plane. Visitors leave in hurry.

5:45 Walk around building. See what workmen have done today. Marvel at difference achieved here in last six months. Talk with new janitor.

5:53 Another day gone already. Never a dull moment, but nothing concrete accomplished. Maybe tomorrow will be better.

Psychological Notes and News

Arlene Burton Nicolson died on September 23, 1952 at the age of 31. She had been a graduate student at the University of California at Berkeley.

John Lewis March, professor emeritus of psychology at Union College, died at Schenectady, New York, on December 3, 1952.

Harriet Babcock died on December 17, 1952 at the age of 75.

Donald G. Paterson was awarded an honorary LLD degree by the Ohio State University on December 19, 1952. Dr. Paterson received his bachelor's degree in 1914 and his master's degree in 1915 from the Ohio State University.

F. C. Bartlett has been awarded a Royal Medal by the Royal Society. The citation from the Society stated: "A Royal Medal for the year 1952 has been awarded by Her Majesty the Queen on the recommendation of the Council of the Royal Society to Sir Frederic Bartlett C.B.E., F.R.S. in recognition of his creation of an experimental school of psychology which has established under his leadership an outstanding position recognized internationally as without superior." This was the first occasion that the Royal Society has awarded any medal to a psychologist.

Constance Lovell is now acting head of the psychology department at the University of Southern California. **Neil Warren,** former head, is developing a program for training flight-safety engineers, in connection with a government project that has been undertaken by the university. **Herman Harvey,** who has spent the past two years at Cornell University, has been appointed assistant professor in the department.

Nils Y. Wessell has been elected acting president of Tufts College. He has been vice-president at Tufts since 1951.

David H. Dingilian, director of Advisement Service, Los Angeles City Schools was awarded an honorary LLD last March by Chapman College from which he received his bachelor's degree in 1934.

Correction. A news item in the October *American Psychologist* was incorrect in stating that O. L. Zangwill, who is now director of the Psychological Laboratory at Cambridge University, has been director of the Institute of Psychology at Oxford University. Professor Zangwill was formerly assistant director of the Institute. The director of the Institute is George Humphrey who has held the chair of psychology at Oxford since 1947.

Harriett K. Beck, formerly director of the Port Huron Child Guidance Clinic, resigned her position with the Michigan State Department of Mental Health last summer to become director of Psychological Services, as well as chief psychologist of the Child Guidance and Psychosomatic Clinics, of Children's Hospital, Buffalo, New York.

Rohrer, Hibler & Replogle announces the appointment of **Mead W. Killion** to their staff effective December 1, 1952. Dr. Killion comes to the firm from Wayne University and will be located in the RHR office in Detroit which opened in January.

Suzanne Reichard has been appointed clinical psychologist in the Department of Psychiatry of Mt. Zion Hospital, San Francisco. She was formerly at the Piedmont Psychiatric Clinic, Oakland, now disbanded.

Leah Gold Fein, formerly of Seattle, Washington, is now living in Greenwich, Connecticut. She is at present devoting one day a week to research at the High Point Psychiatric Hospital in Portchester, N. Y.; one day a week to the Stamford Alcoholics Clinic, a division of the Connecticut Alcoholics Commission; two days a week to private practice including diagnostic testing and child guidance. In addition, she is devoting time to directing seminars in family relations for parent groups in several communities in southern Connecticut.

Harvey R. Austrin has changed positions from clinical psychologist at the Columbus State School, Columbus, Ohio to chief clinical psychologist, VA Regional Office, Indianapolis.

Peter G. Cranford, chief clinical psychologist at Milledgeville State Hospital, Milledgeville, Georgia, has resigned to open a private office in Augusta, Georgia.

John F. Corso was appointed in September, 1952 as an associate professor in the department of psychology at the Pennsylvania State College. He was formerly chief of the Human Factors Office, Rome Air Development Center, Griffiss Air Force Base, Rome, New York.

Newman L. Hoopingarner, professor of business psychology at New York University, has been elected chairman of the Psychology Section of the New York Academy of Sciences for the 1953 term.

Allen R. Levin was released from the Army on October 11, 1952 and is now employed as a counseling psychologist at the VA Medical Teaching Group Hospital, Memphis, Tennessee.

New York University has announced its staff changes for the current year in the department of psychology, the Research Center for Human Relations, and the new Research Center for Mental Health. *Department of psychology:* Joseph V. Hanna and Marie Jahoda have been promoted from associate to full professorships. James N. Farr has been appointed assistant professor of psychology and is serving as departmental representative and devoting half time to research in the Research Center for Human Relations, and Robert E. Silverman, formerly at the University of Indiana, has been appointed assistant professor of psychology. *Research Center for Human Relations:* Two new members have been added to the staff. They are Harold B. Gerard, from the Research Center for Group Dynamics, as research assistant professor, and Philip Lichtenberg, from the department of social relations, Harvard University, as research assistant professor. *Research Center for Mental Health:* The Center was established last year for the conduct of research relevant to the advancement of clinical psychology, and to provide research training for graduate students in clinical psychology. Isidor Chein has been appointed professor and acting director, with Research Assistant Professor Daniel M. Wilner and Research Associate Eva Rosenfeld serving as study directors.

Beginning with the fall semester of 1953, Brandeis University will offer graduate training in general psychology leading to the degree of doctor of philosophy. The training program will emphasize individually conducted theoretical and experimental research projects with formal course training being kept to a minimum. Members of the staff who will direct the research will be: A. H. Maslow, Eugenia Hanfmann, J. B. Klee, W. S. Zimmerman, R. B. Morant and, for 1953–54, Kurt Goldstein. Training in the more specialized professional areas of psychology such as clinical, counseling, industrial, etc. is not planned for the present. Both beginning and advanced students will be accepted (total of 5 or 6 per year) but a minimum of two years' work in residence will be required for the doctoral degree. Applicants are encouraged to apply for one of several scholarships and fellowships which will be available. For further details and information write to James B. Klee, Department of Psychology, Brandeis University, Waltham, Massachusetts.

Richmond Professional Institute has announced the reorganization and new appointments in its School of Clinical and Applied Psychology in Richmond, Virginia. The expanded scope of the school includes a staff of four full-time members and twelve part-time members, acquisition by the school of a three-story building of its own in which to centralize its activities, increased emphasis on counseling services for students and persons in the community, establishment of a play therapy service for children of the community, and enlargement of fieldwork facilities at Westbrook Sanatorium and the State Division of Youth Services. V. J. Bieliauskas, professor, is director of the school which is the only one in Virginia giving a graduate degree in clinical psychology. The other three faculty members, all new this year and all assistant professors, are William E. Cook, Carlotta S. Trussell, and Walter A. Woods. The part-time members are: Jack H. Boger, William H. Kelly, Walter Riese, and Cyril Mills, lecturers; William E. Harris, Harold Lindner, Jacob Silverberg, John McMillan, and Wallace B. Scherer, assistant professors; Catherine T. Giblette, and Cora Lynn Chaffee, fieldwork supervisors; Robert H. Riffenburgh, teaching fellow. The play therapy center for children, and the school's psychometric and experimental laboratories are located in the newly acquired building, which also houses classrooms and offices.

The Bureau of Adult Testing, Guidance, and Personnel Services of the University of Omaha has, starting in September of 1952, expanded its services to the University and the metropolitan

area of Omaha. Claude E. Thompson is director; John MacRae of the University of Nebraska became assistant director and assistant professor of psychology in August. A new intern program for intensive training in testing and counseling for advanced undergraduate and graduate students has been established, and the Bureau has Herbert Larson as senior intern, and Richard Mayne, Donald Eastman, Maria Caporale, and Marilyn Myers as junior interns.

The Board of Directors and staff of **Allegheny Vocational Counseling Center in Pittsburgh, Pennsylvania**, have announced that they will operate in the future under a new and more fully descriptive name, Psychological Service of Pittsburgh. They have opened a new office at Suite 902, Park Building in downtown Pittsburgh where their personnel consulting division will be located. The counseling and research divisions will remain located in Schenley High School, Pittsburgh. The mailing address will be P. O. Box 1855, Pittsburgh 30, Pennsylvania. Psychologists who have recently joined the staff of Psychological Service are Mary E. Cole, formerly of the University of Pittsburgh, appointed to the division of counseling services; John E. Wilson, formerly research assistant and instructor at Teachers College, Columbia University, appointed to the division of personnel appraisal and consulting services; and Milton Lepkin, formerly a fellow in social psychology at Syracuse University, appointed to the research division. Other psychologists on the staff are Dora F. Capwell, director; Frederick I. Herzberg, research director; J. Richard Porter, chief of consulting services; Ralph H. Markus, chief of personnel appraisal; Louise W. Gates, chief of counseling services; Harold Guetzkow, Howard G. Miller, A. D. Daily, and Joseph Herrington. Other professional members of the staff are Campbell Moses, medical consultant; John Osterritter, physician; Ruth L. Myers, vocational counselor; Mary R. Balph, counseling intern; Paul D. Walter, industrial intern; Lois J. Sherwood, chief examiner; Jane Evans, Esther Noll, examiners; Carolyn Lindsay, examining intern; Betty J. Steiner, Janet Boni, research assistants; Marcia Grodin, research secretary; Helen Irvin, librarian; Mildred Romanoski, office manager; and Robert M. Brown, public relations director. The total organization of Psychological Service now includes thirty-five staff members.

The **Organization Committee for the Fourteenth International Congress of Psychology** has been appointed. From the Canadian Psychological Association are N. W. Norton, E. A. Bott, N. Mailloux, Carl Williams, J. S. A. Bois, and D. O. Hebb. George W. Kisker, Carroll C. Pratt, Roger Russell, Wayne Dennis, Donald G. Marquis, and Edwin B. Newman were appointed from the American Psychological Association. *Ex-officio* members are G. A. Ferguson, Fillmore H. Sanford, and H. S. Langfeld. The Congress will be held June 7–12, 1954 in Montreal, Canada.

A Committee on Interest Groups has been formed within the Division of Clinical and Abnormal Psychology to assist any special interest group to establish affiliation with the division. Through this committee, it may be possible to arrange for interested professional groups, either within or without psychology, to participate in the activities of this division. Probably the only requirement will be that a certain number of members of a group should also be members of the APA. Although full details have not yet been worked out, the committee is prepared to assist interest groups to schedule programs at the time of the annual meetings and to benefit by any of the activities in which this division is engaged. Any groups which are interested in taking advantage of this opportunity for affiliation should consult with the chairman of the Committee, Percival M. Symonds, Teachers College, Columbia University, New York.

The psychologists of the Wichita, Kansas area have recently organized the **Wichita Psychological Association.** The total membership now consists of the Board of Governors, but will include both Fellows and Associates. The Board of Governors is composed of Joseph E. Brewer, David T. Herman, Salvatore Russo, Robert V. Hamilton, Jesse H. Craft, Harold Bessel, Hillis D. Kemper, Jackson O. Powell, Paul G. Murphy, James W. D. Hartman, and Audell Herndon. David T. Herman, acting chairman of the department of psychology at Wichita University, was elected president; and James W. D. Hartman, clinical psychologist at the Wichita VA Center, was elected secretary-treasurer.

On December 3, 1952 twenty-six of New Hampshire's psychologists met in Concord, N. H. to consider the proposal to organize a **New Hampshire Psychological Association.** Harry V. McNeill,

consultant psychologist of the U. S. Public Health Service, served as advisor to the group. An Organizational Committee was elected with Charles H. Cook as chairman, and Betty-Jean Imus as secretary-treasurer. Others elected to the committee are: Herbert A. Carroll, Theodore Karwoski, Anthony Kraus, Peter Gaskill, and Paul Vernon. It was voted to hold the first annual meeting in May.

New officers of the **Society for Projective Techniques** are: John E. Bell, president; Samuel B. Kutash, 1st vice-president; Karen Machover, 2nd vice-president; Rachel D. Cox, secretary; Margaret Mercer, treasurer. Mortimer M. Meyer continues as chairman of the Editorial Committee and executive editor, and Bruno Klopfer as editor of the *Journal of Projective Techniques*. The by-laws have been amended to set up four categories of members: Fellow, Associate, Affiliate, and Student Affiliate. Affiliates are members from professions other than clinical psychology who have a sincere, legitimate interest in projective techniques. Student Affiliates must be graduate students in psychology who have completed a minimum of one year's credit which includes two-semester or six-unit courses in projective techniques. Persons desiring information on membership should write the Secretary at 609 West 196th Street, New York 34, N. Y.

In 1952 honorary membership in **Psi Chi** was awarded to Steuart Henderson Britt by the George Washington University chapter, Leonard C. Carmichael by the Tufts College chapter, and Robert J. Wherry by the Ohio State University chapter.

J. G. Taylor of the University of Cape Town has made available a number of mimeographed copies of his presidential address on "The Nature and Origin of Mind" as it was presented in July, 1952, to the South African Psychological Association. An attempt to fuse meaningfully a theoretical approach developed from studies in perception with a theoretical approach growing out of investigations in learning, the paper represents an effort to bring together tendencies in psychology that have been relatively isolated from each other or that have divided theorists into opposing schools rather than encouraged cooperative investigation. Those interested may obtain copies for $1.00 from Dr. E. J. Shoben, Jr., Teachers College, Columbia University, New York 27, N. Y., who has agreed to distribute the copies for Dr. Taylor. This procedure is being followed because of currency restrictions, and all funds received from sale of the address will be deposited in Dr. Taylor's APA account. Checks should be made payable to E. J. Shoben, Jr.

The **Psychological Laboratories at Harvard University** would like to sell a complete set of the *Journal of Social Psychology*, volumes 1–36. For information write to Mrs. L. C. Fall, Librarian, Psychological Laboratories, Harvard University, Cambridge 38, Massachusetts.

The Survey Research Center of the University of Michigan will again hold its **Annual Summer Institute in Survey Research Techniques**. This special program is designed to illustrate the theory and application of survey research to such fields as business and human relations, education, psychology and sociology, public affairs, public health, economics, and statistics. Again this year a special workshop will be offered in the practical application of survey research methods to these individual fields. The dates for this session are June 22 to July 17 and July 20 to August 14. For further information write to the Survey Research Center, University of Michigan, Ann Arbor, Michigan.

Three workshops in the Rorschach method will be held this summer at Western Reserve University. The workshop on introduction to the Rorschach method will be on June 8–12, the intermediate course on June 15–19, and the advanced course on June 22–26. The fee is $40 per workshop. For information write to Dr. Marguerite R. Hertz, Psychological Laboratory, Western Reserve University, Cleveland 6, Ohio.

The **National Training Laboratory in Group Development** will hold its usual three-week summer laboratory session at Gould Academy, Bethel, Maine. The dates will be from June 21 through July 11. Approximately 110 applicants will be accepted. Persons involved in problems of working with groups in a training, consultant, or leadership capacity in any field are invited to apply. For further information, write to the National Training Laboratory in Group Development, 1201 Sixteenth Street N.W., Washington 6, D. C.

The program in **advanced training in marriage counseling** will again be held at the Menninger Foundation, beginning July 1, 1953. Two $2,500 fellowships, made available by the Grant Founda-

tion, will be awarded to married applicants who need financial assistance. For information about the program and the fellowships write to Dr. Robert G. Foster, the Menninger Foundation, Topeka, Kansas.

Postdoctoral residencies in clinical psychology are available at Worcester State Hospital beginning July 1, 1953. The program is undertaken in conjunction with Clark University. Appointments carry a USPHS stipend of $3,000. The program is planned to provide training in areas not ordinarily covered intensively in graduate study. The residency permits the student to participate in integrated research and clinical programs with workers in related disciplines as part of his own training. Application forms may be obtained from Dr. Leslie Phillips, Chief Psychologist, Worcester State Hospital, Worcester 4, Massachusetts.

Postdoctoral fellowships in clinical psychology, Chicago Associated Institutions. The major goal of this postdoctoral fellowship is to provide advanced training in clinical psychology for persons who have a doctoral degree in the field, and whose major goals are research and/or teaching. The program uses the resources of several cooperating institutions in the Chicago area. The participating agencies and the persons immediately responsible are: Michael Reese Hospital, division of psychology (S. J. Korchin); Northwestern University, department of psychology (W. A. Hunt); University of Chicago, department of psychology (J. G. Miller); University of Illinois, department of psychiatry (D. Shakow). The University of Illinois serves as financial agent to take care of the arrangements with the National Institute of Mental Health which provides the stipends. Each institution makes certain contributions to the program: Michael Reese Hospital—clinical training facilities in diagnosis, staff meetings, and seminars; University of Illinois—clinical training facilities, staff meetings, and seminars; University of Chicago —seminars and practicum courses; Northwestern University—seminars. Under ordinary circumstances, the program will be followed for a two-year period. Candidates must have a PhD and training and experience in clinical psychology. The first-year stipend is $3,000; the second-year stipend, $3,600. Applications should be sent to Dr. David Shakow, University of Illinois College of Medicine, 912 South Wood Street, Chicago 12, Ill.

Veterans Administration Clinical Psychology Staff Roster. The following list is a complete roster of VA clinical psychologists as of January 1, 1953. Eight permanent-type appointments, transfers and resignations "in process" although not technically completed on January 1 have been included; two special positions temporarily existing on this date have been excluded. There are now 416 clinical psychologists employed by the VA. As a further step toward prolonging the utility of the roster, arrangements have been made to report all subsequent changes to the Notes and News section of the *American Psychologist.*

Central Office

Clinical Psychology Section
Psychiatry and Neurology Division
Veterans Administration
Washington 25, D. C.

Harold M. Hildreth, Chief
J. Quinter Holsopple, Assistant Chief
H. Max Houtchens, Assistant Chief
Maurice Lorr, Assistant Chief

Area Offices

Area Chief Clinical Psychologist	*States and Territories in Area*
Howard White Area Medical Office c/o VA Regional Office Boston 8, Massachusetts	Connecticut, Maine, Massachusetts, New York, New Hampshire, Vermont, Rhode Island
N. Norton Springer Area Medical Office c/o VA Regional Office 1825 H Street N.W. Washington 25, D. C.	Delaware, District of Columbia, Indiana, Kentucky, Maryland, New Jersey, Ohio, Pennsylvania, Puerto Rico, Virginia, West Virginia
Carl Altmaier Area Medical Office c/o VA District Office 441 W. Peachtree St. Atlanta 3, Georgia	Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee
W. S. Phillips Area Medical Office 415 Pine Street St. Louis 2, Missouri	Arkansas, Colorado, Kansas, Louisiana, Missouri, New Mexico, Oklahoma, Texas
William Hales Area Medical Office c/o VA District Office Fort Snelling St. Paul 11, Minnesota	Illinois, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wisconsin, Wyoming
Wendell R. Carlson Area Medical Office c/o VA Regional Office 49 Fourth Street San Francisco 3, Calif.	Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Utah, Washington

Stations

VAH—VA Hospital
VARO—VA Regional Office
VAO—VA Office (Subregional)
VAC—VA Center (Combined activity such as hospital and domiciliary, hospital and regional office, etc.)
(MHC)—Mental Hygiene Clinic
(NP)—Predominantly Neuropsychiatric
(GM)—Predominantly General Medical and Surgical
(TB)—Predominantly Tuberculosis
(DOM)—Domiciliary

The mailing address of each station consists of its name and designation, e.g. VA Hospital, Tuscaloosa, Alabama; VA Regional Office, Phoenix, Arizona; VA Center, Los Angeles, California; VA Office, Bridgeport, Connecticut. The title "Dr." should be used throughout.

Asterisk (*) denotes administrative head.

Alabama

Tuscaloosa VAH (NP)
Martin J. Brennan
John K. Kew

Tuskegee VAH (NP)
Jesse J. Johnson
*James T. Morton

Arizona

Phoenix VARO (MHC)
*Aaron H. Canter

Tucson VAH (TB)
*Gildas E. Metour

Arkansas

Fayetteville VAH (GM)
*Carl S. Wright

Little Rock VAH (GM)
*Francis D. Jones

Little Rock VARO (MHC)
*Jerome Schiffer

North Little Rock VAH (NP)
Philip S. Henderson
Oddist D. Murphree
*Henry N. Peters
Charles E. Thompson

California

Fresno VAH (GM)
*Wayne W. Wisham

Livermore VAH (TB)
*Roger E. Bardsley

Long Beach VAH (GM)
Gertrude Baker
H. Elston Hooper
*Frank J. Kirkner
Hamilton W. Moody
Charlyne Storment-Seymour

Los Angeles VAC (Sawtelle)
(Brentwood—NP)
*Harry M. Grayson
Leon I. Hellman
Walther Joel
Carl H. Saxe
George F. Seacat
Edwin S. Shneidman
W. Marshall Wheeler

(Wadsworth—GM)
*Phillip A. Goodwin

(DOM)
Devere G. Arnold
Bernaur W. Newton
*Frank Risch

Los Angeles VARO (MHC)
Norman L. Farberow
Bertram R. Forer
*Mortimer M. Meyer
Vita S. Sommers
*Ruth S. Tolman (Chief, Training Unit)

Oakland VAH (GM)
*George S. Welsh

Palo Alto VAH (NP)
Ben C. Finney
*William R. Grove
Richard C. Hamister
Ludwig Immergluck
Charles F. Mason
Robert L. McFarland
Paul W. McReynolds
Clare W. Thompson

San Diego VARO (MHC)
*Wallace V. Lockwood

San Fernando VAH (TB)
*Barbara M. Stewart

San Francisco VAH (GM)
*Jerome Fisher
Albert Kostlan

San Francisco VARO (MHC)
F. Harold Giedt
Florence M. Henderson
Christine M. Miller
*Richard Sears
Rae A. Shifrin

Oakland VAO (MHC)
*Patrick L. Sullivan
Erica M. Weingarten

Colorado

Denver VARO (MHC)
Charles R. Kessler
*Lawrence S. Rogers
James W. Taylor

Denver VAH (GM)
Lewis Bernstein
*Howard L. Siple

Fort Lyon VAH (NP)
*Frederick W. Schnadt

Connecticut

Hartford VARO (MHC)
Irving H. Frank
*Philip W. Morse

Bridgeport VAO (MHC)
*Larry Hemmendinger

Newington VAH (GM)
*Jacob Levine

Delaware

Wilmington VAH (GM)
*Albert M. Barrett
Searles A. Grossman

District of Columbia

Washington VARO (MHC)
*Alfred C. Cornsweet
William W. Michaux
Eli A. Rubenstein
Mary H. Tatom
Frederick P. Watts

Washington VAH (GM)
*Irving Raifman

Florida

Bay Pines VAC (GM & DOM)
*Richard S. Ball

Coral Gables VAH (GM)
*Charles A. Stenger

Miami VARO (MHC)
*Syvil Marquit

Pass-a-Grille VARO (MHC)
*Arthur L. Rautman
Sherman L. Whalley

Georgia

Atlanta VARO (MHC)
*Harry Martin

Augusta VAH (NP)
Henry L. Pope
*Leopold Winter

Illinois

Chicago VARO (MHC)
*Sol L. Garfield (Chief, Training Unit)
Ralph W. Heine
Victor A. Jackson
Morton N. Leventhal
Walter H. Peterson
Joanne F. Powers
*John G. Watkins

Danville VAH (NP)
George O. Baehr
*Kenneth C. Jost

Downey VAH (NP)
William P. Albaugh
Zoltan Gross
*Julian H. Pathman
Frances S. Racusen
Donald R. Stieper
Meyer Williams
Alvin F. Winder
J. Wilson Young

Hines VAH (GM)
Leo B. Arey
*Roy Brener
David Grauer
Mary E. Grier
Roderick W. Pugh

Indiana

Fort Wayne VAH (GM)
*Charles J. Bellavia

Indianapolis VARO (MHC)
*Harvey R. Austrin

Indianapolis VAH (GM)
(Ft. Benj. Harrison)
*John J. Conger
Carolyn Pratt

Marion VAH (NP)
Frederick J. Heimlich
*Fred E. Spaner

Iowa

Des Moines VAC (MHC)
*Frederick F. Ash
Lynn K. Roberts

(GM)
*S. J. Williamson, Jr.

Iowa City VAH (GM)
*Bertram D. Cohen
Knoxville VAH (NP)
David S. Goodenough
*Mordecai H. Gordon
Wilson H. Guertin
Arnold D. Krugman
Stanford H. Simon

Kansas

Topeka VAH (NP)
John W. Chotlos
Leon B. Cohen
Herman Feifel
*William C. Hallow
Ernest A. Hirsch
Leonard Horwitz
Frank M. Moriarty
Wadsworth VAC (GM & DOM)
*Neil W. Coppinger
Wichita VAC (MHC)
*Edward Weston (GM)
*James W. D. Hartman

Kentucky

Fort Thomas VAH (GM)
*Thelma E. Brown
Lexington VAH (NP)
Richard M. Griffith
Arthur A. Kramish
*A. Dudley Roberts
Louisville VAH (GM)
Vera E. Kennedy
*Joe L. Lawson
Louisville VARO (MHC)
*Richard W. Thomas

Louisiana

New Orleans VARO (MHC)
William T. Bourke
*Charles L. Odom
New Orleans VAH (GM)
Robert P. Barrell
*Irving A. Fosberg
Shreveport VAC (GM)
*Anthony R. Hybl

Maine

Togus VAC (NP)
*Euclid A. Helie

Maryland

Baltimore VARO (MHC)
Charles J. Leiman
*Edward W. Slockbower
William A. Zielonka
Baltimore VAH (TB)
*Isabelle V. Kendig
Perry Point VAH (NP)
Clinton C. Brown
James L. Framo
Alfred S. Friedman
John N. Rakusin
Richard Sanders
John R. Schlosser
Gideon B. Stone
*James A. Waites

Massachusetts

Bedford VAH (NP)
*Norman T. Bowes
Samuel Grob
Harold R. Musiker
Boston VAH (GM)
Ralph W. Fingar
Angela Q. Folsom
Howard Friedman
Harold Goodglass
*Donald A. Ramsdell
Edward L. Siegel
Robert G. Walker
Boston VARO (MHC)
Bernard L. Bloom
Arthur Steinberg
*J. Warren Thiesen
Lowell VAO (MHC)
*Miriam C. McCue
Northampton VAH (NP)
Cesaro D. Pena
*Isidor W. Scherer
John F. Winne

Michigan

Dearborn VAH (GM)
William H. Knapp
*John J. Lasky
Herbert B. Malos
Detroit VARO (MHC)
John J. Brownfain
Alvis S. Caliman
*Robert G. Gibby
Karl F. Pottharst
Herbert Silverman
Bernard A. Stotsky
Fort Custer VAH (NP)
*Stewart G. Armitage
David G. Berger
Paul G. Daston
Paul D. Greenberg
David Pearl
Saginaw VAH (GM)
*Gerald L. Hover

Minnesota

Minneapolis VAH (GM)
Harold Gilberstadt
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St. Cloud VAH (NP)
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*Vernon K. Lum
Allen S. Penman
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Mississippi

Biloxi VAC (GM & DOM)
*Samuel Granick
Jackson VAC (GM)
*Jesse B. Rhinehart
Gulfport VAH (NP)
*Herdis L. Deabler
J. Harry Feamster

Missouri

Jefferson Barracks VAH (NP)
*Rex M. Collier
Charles A. Dailey
Wilbur K. Rigby
Kansas City VARO (MHC)
C. Kermit Phelps
*Henry D. Remple
St. Louis VARO (MHC)
Stanley Goldstein
*Arnold H. Hilden

Nebraska

Omaha VAH (GM)
Theodore McKnelly
*J. Lewis Yager
Lincoln VARO

Omaha VAO (MHC)
*Stanley Moldawsky

Nevada

Reno VAC (GM & MHC)
*Thomas W. Kennelly

New Hampshire

Manchester VARO (MHC)
*Walter St. Clair

New Jersey

East Orange VAH (GM)
Leonard S. Abramson
*Samuel B. Kutash
Lyons VAH (NP)
Marianne Beran
*Louis Delman
Erasmus L. Hoch
John E. Tucker
Newark VARO (MHC)
Renata A. Calabresi
E. Louise Gaudet
Pearl Greenberg
Morris Goodman
John H. McCormack
*James S. Simkin

New Mexico

Albuquerque VAH (GM)
*Charlotte H. Dosier
Albuquerque VARO (MHC)
*John A. Salazar

New York

Bath VAC (GM & DOM)
*Bernard Berkowitz
Bronx VAH (GM & MHC)
Benjamin Blatt
Nathan Boxer
Jacob Cohen
Louis Feigenbaum
Joseph C. Mark
*Robert S. Morrow
Edward Shulman
Brooklyn VAH (GM)
Leonard Bernstein
Sol Levine
*Leo Shatin
Brooklyn VARO (MHC)
Elias N. Abrams
Irving Barnett
Gerald Bauman
Catharine A. Burnham
Irving Handelsman
Joseph Katz
Melvin Kornreich
Leonard Krasner
Agnes T. Landis
*Bernard Locke
Sidney Pally
Louis M. Rosenberg
Selig Rosenberg
Buffalo VAH (GM)
Jules Kann
Alfred E. Pomerantz
*Martin G. Staiman
Buffalo VARO (MHC)
Joseph W. House
Bernard Mirin
*Joseph R. Sanders
Rochester VAO (MHC)
*Daniel C. Broida
Canandaigua VAH (NP)
Alfred P. Katzenstein
*Benjamin F. McNeal
Joseph Newman
Castle Point VAH (TB)
*Daniel Casner
Montrose VAH (NP)
Stanley Berger
*Seymour G. Klebanoff
Peter J. Napoli

Ruth Peck
Joseph M. Sacks
Jerome L. Singer
Murray J. Stern
Mordecai Whiteman
Harold Wilensky

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*Max Cooper
Melvyn M. Katz
Stanley D. Needelman
Stanley S. Schwartz
Gerald D. Rosenbaum

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Joseph Axelrod
Mattox A. Bailey
Gordon J. Barnett
Murray Blacker
Seymour Canter
Robert M. Eichler
Irving Hecht
Olive L. Ives
Herbert S. Lewin
Alfred Libby
*Edith Lord (Chief, Training Unit)
*Richard Paynter
Paul D. Park
Myrtle E. Pignatelli
Leon E. Rostker
Charles Taffel
John J. Vaccaro
Pauline G. Vorhaus
Samuel J. Warner

Syracuse VARO (MHC)
*Manuel Aronson

Ohio

Brecksville VAH (TB)
*Gordon Barrows

Chillicothe VAH (NP)
H. Robert Albrecht
Robert Bloomberg
John D. Breish
Alvin R. Howard
William D. Pickering
*Ranald N. Wolfe

Cincinnati VARO (MHC)
*Harriet J. Bentley

Columbus VAO (MHC)
*Henry Samuels

Cleveland VAH (GM)
*Leah M. Loehrke

Cleveland VARO (MHC)
*Henry S. Curtis
Morton Slobin
Elizabeth B. Wolf

Dayton VAC (GM & DOM)
*Mildred B. Mitchell

Oklahoma

Oklahoma City VARO (MHC)
*Newell H. Berry

Oregon

Portland VARO (MHC)
*James C. Conant

Roseburg VAH (NP)
*Robert Cartwright
Robert D. Sinclair

Pennsylvania

Altoona VAH (GM)
*Glenn W. Rieman

Aspinwall VAH (GM)
*S. Thomas Cummings

Butler VAH (TB)
*Ralph Simon

Coatesville VAH (NP)
*David Cohen
Emanuel D. Starer

Erie VAH (GM)
*Frank J. Pizzat

Lebanon VAH (NP)
Sylvester C. Ficca
*George T. Lodge
Murray J. Lonstein
Harold Rubin

Philadelphia VARO (MHC)
Robert G. Ballard
William J. Cohen
Julian Meltzoff
Howard E. Mitchell
Clellan L. Morgan

Pittsburgh VARO (MHC)
Irving Coblentz
*Howard W. Goodman
Joseph S. Herrington

Wilkes-Barre VAH (GM)
Isadore Krasno
*Edward J. McLaughlin

Wilkes-Barre VARO (MHC)
*Franklin D. Fry

Rhode Island

Providence VAH (GM)
*M. Powell Lawton

South Carolina

Columbia VAH (GM)
*Margaret B. Barker

Columbia VARO (MHC)
*Robert A. Ferguson

South Dakota

Fort Meade VAH (NP)
*Robert E. Royal

Hot Springs VAC (GM & DOM)
*Richard N. Filer

Sioux Falls VAC (GM)
*Joel M. Cantor

Tennessee

Memphis VAH (GM)
Milton C. Addington
*Alfred R. Mueller
Don L. Winfield

Murfreesboro VAH (NP)
*Jack S. Griffiths

Nashville VAH (GM)
*Irving Bialick
Beatrice I. Bryan
Richard F. Martin

Nashville VARO (MHC)
Knoxville VAO (MHC)
*Cecil K. Harbin

Texas

Dallas VARO (MHC)
*Mary F. Myatt

Houston VAH (GM)
Sidney E. Cleveland
Seymour Fisher
Louis J. Moran
*Robert B. Morton
Maxton A. Russell
Jerold D. Scott

San Antonio VARO (MHC)
James R. Kinser
*Will C. Rogers

Temple VAC (GM & DOM)
*Felman B. Sorsby

Waco VAC (NP—MHC) (NP)
Verner S. Baugh
Mac Ferguson
Donald R. Gorham
*Ruth M. Hubbard
A. J. Jernigan
T. S. Ray

Austin VAO (MHC)
*Vernon V. Sisney

Utah

Salt Lake City VARO (MHC)
*John M. Landward

Salt Lake City VAH (Ft. Douglas) (NP)
William R. Dobson
H. Birnet Hovey
*Carroll A. Whitmer
John W. Whitmyre

Virginia

Kecoughtan VAC (GM & DOM)
*Benjamin Winsten

Richmond VAH (GM)
*William E. Harris
Charles Lindner
John J. McMillan
Jacob Silverberg

Roanoke VAH (NP)
James J. Calvert
Charles A. Gersten
John F. Gillespie
Hiram L. Gordon
Morris Roseman
*Burke M. Smith
Warren W. Webb

Washington

American Lake VAH (NP)
Libby Blek
Leslie Navran
*James C. Stauffacher

Seattle VAH (GM)
William H. Colley
*William S. Kogan

Seattle VARO (MHC)
*W. Michael Adams
Gertrude S. Harrow
Robert D. Quinn
Kenneth B. Stein

Spokane VAO (MHC)
*Ramona Messerschmidt

Vancouver VAH (GM)
*William B. Singer
David M. Sterne

West Virginia

Clarksburg VAH (GM)
*Orison S. McLean

Huntington VARO (MHC)
*Roy E. Buehler

Martinsburg VAC (GM & DOM)
Lee Gurel
*Claire M. Vernier

Wisconsin

Madison VAH (TB)
*George Calden

Milwaukee VARO (MHC)
*Douglas A. Dean

Tomah VAH (NP)
Melvin E. Allerhand
*Fred Y. Billingslea

Wood VAC (GM & DOM)
Robert Callahan
*Samuel H. Friedman

Wyoming

Sheridan VAH (NP)
*Cecil P. Peck

Convention Calendar

American Psychological Association: September 4–9, 1953; Michigan State College
For information write to:
Dr. Fillmore H. Sanford
1333 Sixteenth Street N. W.
Washington 6, D. C.

Child Study Association of America: March 2–3, 1953; New York, New York
For information write to:
Child Study Association of America
132 East 74th Street
New York 21, New York

Optical Society of America: March 19–31, 1953; New York, New York
For information write to:
Professor Arthur C. Hardy
Room 8–203
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Cambridge 39, Massachusetts

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THE LOGICAL BASIS OF FACTOR ANALYSIS

H. J. EYSENCK

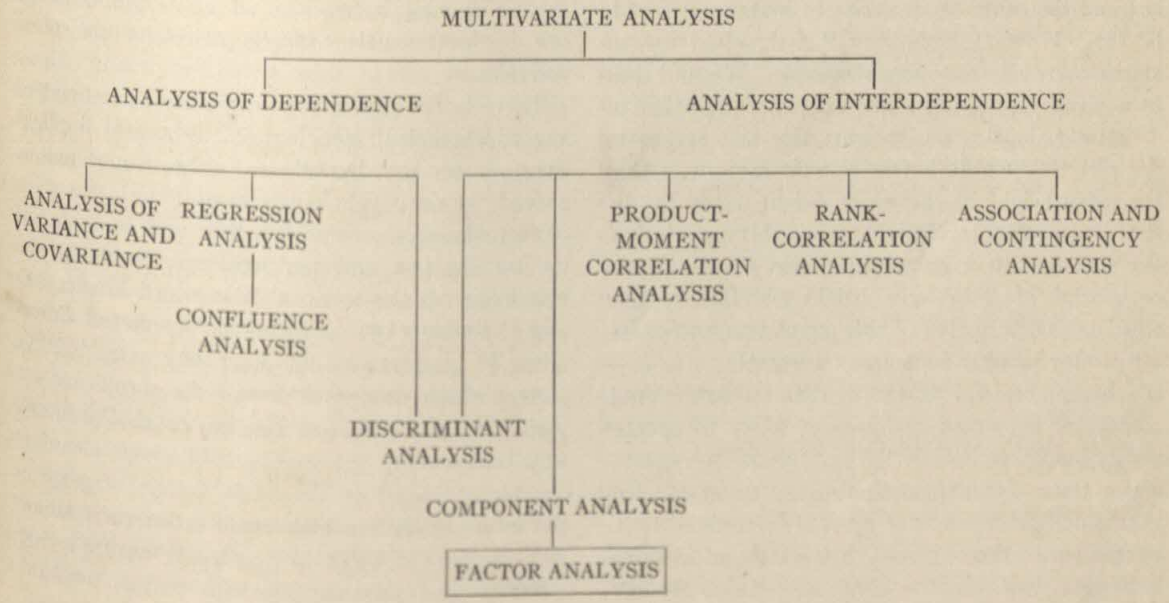
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FEW methods of statistical analysis have encountered as much resistance among both statisticians and psychologists as has factor analysis. In addition to this critical attitude towards factor analysis as a whole, there is an internecine quarrel amongst practitioners which has split the whole field into schools, factions, and individual snipers. Is this turmoil due to any inherent flaws in the method, or is it due to some confusion about aims and techniques? It will be the burden of this paper to show that the latter possibility is the more likely cause, and to attempt the construction of a rational scheme into which all the existing methods of analysis can be fitted. The stress is throughout on the *logic* as opposed to the *mathematics* of factor analysis; disputes about the latter are much less fundamental and much more easily settled than discussions about the former.

In assigning a place to factor analysis in the general field of statistics, we may with advantage follow Kendall (12, p. 60), who draws a distinction between analysis of *dependence* and analysis of *interdependence*. In the latter we are interested in how a group of variates are related among themselves, no one being marked out by the conditions of the problem as of greater prior importance than the others, whereas in the analysis of dependence we are interested in how a certain specified group (the dependent variates) depend on the others. The distinction is perhaps seen at its simplest in the bivariate case: correlation between two variates is a matter of interdependence, and is a symmetrical relationship between them; the regression of one on the other is a matter of dependence and is not a symmetrical relationship—the regression of x on y is not the same as the regression of y on x.

The position of factor analysis in the group of techniques using analysis of interdependence is shown in the accompanying figure quoted from Kendall (12, p. 61).

I have said: "*The* position of factor analysis," but the use of this clause suggests erroneously that there is one technique, one method, and one aim underlying the quite variegated activities of factor analysts. In actual fact, there are three main aims which factor analysts try to achieve, three main views regarding the nature of factors which are closely related to these aims, and a large variety of methods of extraction and techniques of rotation.



If we would understand these many different approaches, we must start with a statement of the questions which factor analysis is trying to answer. This is particularly important because of the tendency of many critics to reject the factorial answer to a certain question, not because the answer is inadequate, but because the question is misunderstood.

This point is well made, in quite another connection, by the philosopher Collingwood who writes:

> You cannot tell whether a proposition is "true" or "false" until you know what question it was intended to answer . . . a proposition which in fact is "true" can always be thought "false" by any one who takes the trouble to excogitate a question to which it would have been the wrong answer, and convinces himself that this was the question it was meant to answer. And a proposition which in fact is significant can always be thought meaningless by any one who convinces himself that it was intended as an answer to a question which, if it had really been intended to answer it, it would not have answered at all, either rightly or wrongly (5, p. 30).

The three aims of factor analysis are the same three aims which give rise to other branches of statistics. As Kelley (13, p. 22) puts it: "The first function of statistics is to be purely descriptive, and its second function is to enable analysis in harmony with hypothesis, and its third function to suggest by the force of its virgin data analyses not earlier thought of." Kelley makes clearer his second and third points by adding: "We may say that there are two occasions for resort to statistical procedures, the one dominated by a desire to prove a hypothesis, and the other by a desire to invent one" (13, p. 12). We may exemplify this threefold use of statistics by reference to an example. We find that in a given population there exists a correlation of .6 between height and weight; this fact serves to *describe* this population in just the same way that the mean height or the mean weight would be descriptive constants characterizing this population. We find that in a given population there exists a correlation of .2 between height and intelligence; this is also descriptive of this population, of course, but it may in addition suggest a hypothesis to us—the hypothesis, for instance, that favorable environmental circumstances are conducive to greater bodily height and to better performance on intelligence tests. This hypothesis may suggest to us that intelligence should also be correlated with weight (deduction 1), and that greater educational homogeneity within the group over which the correlation between height and intelligence is being run should reduce that correlation (deduction 2). We therefore calculate further correlations to prove or disprove our hypothesis—disprove in this case, because both deductions are falsified by the facts—thus using statistics to carry out "analysis in harmony with hypothesis."

Most psychologists and statisticians are aware, either explicitly or more frequently implicitly, of these three uses of statistics; it is in their application to factor analysis that problems of communication arise. I shall therefore discuss the use of factor analysis at these three levels in some detail, giving a formal definition of the term "factor" appropriate to each level.

Factors as descriptive statistics. Whatever else may be the function of a factor, it is always descriptive of a given sample or population. It is small wonder, therefore, that many definitions of factor analysis stress this point to the exclusion of any other. Thus Holzinger and Harman (11, p. 1) write: "Factor analysis is a branch of statistical theory concerned with the resolution of a set of descriptive variables in terms of a small number of categories or factors. . . . The chief aim is . . . to attain scientific parsimony or economy of description." Similarly Kelley (15, p. 120): "[Factor analysis] represents a simple straightforward problem of description in several dimensions of a definite group functioning in definite manners." We may thus arrive at the following definition: *A factor is a condensed statement of (linear) relationships obtaining between a set of variables which can be used mathematically to stand for these variables.*

There is no implication in factors so defined of any psychological meaning, of any causal implications, or of any hypotheses, either suggested or proved. Few psychologists have found this view of factor analysis very attractive, and examples of its use are few and far between. Probably the best known is the work of Adams and Fowler (1) and of Kelley (14) on vocational interests. Correlating 35 interests on 800 men, they extracted five factors which accounted for all the significant covariation. These factors were not rotated or in any way interpreted, but were simply given meaningless names based on the initial letters of some of the interests having high loadings on each factor. Thus factor "NEVCOM" contrasts nature-loving, religious, and salesmanship with power, mechani-

cal, spatial, orderliness, verbal, and musical interests. The fact that psychologically these factors make no sense would not be a correct criticism of the analysis which was intended to be purely descriptive; descriptively these nonsense factors are as good as any other set. The obvious convenience of having five factors instead of 35 variables in a regression equation, for instance, is undoubted, and may furnish justification for this very limited type of analysis. (We would of course lose whatever contributions specific factors might have made, possibly a very serious loss indeed.)

Factors suggesting a hypothesis. A factor, however it may have been obtained, may suggest a hypothesis to the investigator. In so far as it does that, the factor ceases to be merely descriptive and becomes part of theoretical psychology. We may give a formal definition of factor analysis from this point of view and say: *A factor is a condensed statement of (linear) relationships obtaining between a set of variables, suggestive of hitherto undiscovered causal relationships.*

As an example of this type of approach, contrasting with Kelley's analysis mentioned above, we may cite Thurstone's (22) analysis of the intercorrelations between 18 of Strong's interest scales. Thurstone emerged with four factors, labelled interest in science, interest in language, interest in people, and interest in business. Later work, summarized elsewhere (9), has on the whole confirmed Thurstone's analysis, and there is little doubt that the hypothesis suggested to him by the analysis has psychological meaning, and fits into psychological theory, while Kelley's analysis does neither. In other words, Thurstone's work adds to the merely descriptive function a psychological hypothesis which appears reasonable on a priori grounds, and which can be checked and submitted to experimental verification or disproof.

It may be argued that hypotheses can be generated in other ways than by factor analysis. That of course in undeniable, and there is no guarantee that factorial hypotheses will be superior to hypotheses arrived at by simple observation, by theoretical analysis, or even by *Schreibtischexperiment*. As an example of a hypothesis thus derived, we may quote Spranger's (20) purely theoretical analysis of interest patterns into the theoretical, economic, aesthetic, social, political, and religious. A factorial investigation of this hypothesis by Lurie (16) gave rise to four factors: social, theoretical, religious, and what he calls Philistine, i.e., combining the economic and political interests, and opposing them to the aesthetic interests. This investigation thus gives results in line both with Thurstone's and with Spranger's hypotheses, but as Lurie's work is essentially an example of factor analysis supporting or disproving a hypothesis, no more will be said about it.

While it must be admitted that hypotheses may be formed in a variety of ways, the factorial method has one definite advantage. It provides *ab initio* data relevant to the formation of such hypotheses, and it rules out a large number of possible hypotheses which might otherwise have been entertained. Something similar, of course, is done when hypotheses are based on a simple observational study; indeed, it will be argued later on that much observational and clinical work is essentially similar to factor analysis in principle, though inferior to it because of its lower degree of rigor and accuracy. In a well-studied field, there are probably enough well-documented observations to make hypothesis-formation easy; in a relatively new field, the help of factor-analytic methods may be very important in accelerating the formation of reasonable, worthwhile hypotheses, and in discarding poor ones.

Factors supporting or disproving a hypothesis. It is obvious that factor analysis cannot be used as a formal part of the hypothetico-deductive process in relation to just any type of hypothesis. The great majority of psychological hypotheses require some form of analysis of dependence, and thus rule out the factor-analytic approach. But there are a number of hypotheses, particularly those concerned with structure and organization, which require factor-analytic methods, and which are difficult at the moment to disprove or support by nonfactorial methods. All type- and trait-hypotheses, for example, fall into this category, as I have tried to show elsewhere (6, 9), and even Freudian theories have shown themselves amenable to the factorial method of proof (10).

Our definition of a factor as supporting or disproving a hypothesis follows directly from these considerations. We may say that *a factor is a condensed statement of (linear) relations obtaining between a set of variables which is in agreement with prediction based on theoretical analysis.*

Such predictions may be of varying degrees of exactitude. We may predict merely that certain items or tests will be found to have positive projec-

tions on a factor, while other items or tests will have negative projections; this is the most elementary level of prediction. Much more refined prediction is possible in relatively well-studied fields. Thurstone would probably be able to specify with considerable precision the position of a newly constructed test in the cognitive multi-factor space, or to construct a new test to specification, i.e., to lie at a particular place in the multi-factor space. The writer has been able to write social-attitude items to specification within a defined two-factor space with negligible errors. Many other examples of relatively precise predictions could be given; the majority of cases, however, would undoubtedly be at a much lower level of precision.

Frequently psychologists fail to state the exact nature of their hypotheses, and discuss their findings as if they had selected their tests at random, without any kind of hypothesis in mind. Occasionally such blind empiricism does seem to lie at the back of factorial work; factor analysis is sometimes used as a last resort to try and rescue worthless data accumulated at random from the fate such data so richly deserve. It need hardly be said that such use of factor analysis is valueless, but the fact that it occurs should not be used as an argument against the method as such; similar faulty use may be the fate of all statistical methods. It is probably safe to say that in the great majority of cases items and tests are included in a factor analysis on the basis of fairly specific hypotheses which are seldom verbalized in the write-up of the experiment because (*a*) lengthy discussions would be required, which most editors would refuse to print, and (*b*) results are already available to show which hypotheses have been verified, so that there seems little point in discussing those which have been disproved.

It will have been noticed that in passing from the purely descriptive use, there has been a definite change in the implication of the term *factor*. For Kelley, there is no causal reference implied in a factor; for Spearman, Thurstone, and those who follow their methodology there quite clearly is such a reference. This causal implication characterizes not only the interpretation of factors as suggestive of a hypothesis, but also the next level of factors as proving a hypothesis, and since from the psychological point of view this causal implication is precisely what lends interest and value to factor analysis, it may be opportune here to give a definition of a factor which brings out this element. We may therefore offer the following definition: *A factor is a hypothetical causal influence underlying and determining the observed relationships between a set of variables.*

This definition serves a useful function in drawing attention to the close link between the hypothesis-generating and the hypothesis-proving functions of factor analysis, as opposed to the purely descriptive. It will often be found that in one and the same investigation there will be factors which support a hypothesis and factors which generate one. Elsewhere (6) a factor analysis has been reported of a large matrix of neuroticism tests designed to test a hypothesis regarding this particular factor. The analysis did indeed confirm the hypothesis; it also gave rise, however, to another factor which suggested that pencil-and-paper, verbal-type tests are separated in a clear-cut fashion from nonverbal, objective-behavior tests. Such a verbal–nonverbal factor, well known in the cognitive field, suggests various hypotheses which require testing; thus we find in the same analysis confirmation of one hypothesis, and suggestions for further hypotheses. This mutual stimulation between proof and suggestion might indeed be regarded as a prominent feature of factor-analytic work, and may recommend the method to those used to this interplay among hypothetico-deductive lines in other sciences.

While this interplay of proof and suggestion is valuable and important, it has often led to interpretations highly vulnerable to criticism. As has been pointed out elsewhere (7), it has been one of the worst abuses of factor analysis that practitioners have often carried out an analysis *suggesting* a hypothesis, and have then gone on to argue that their analysis has *proved* this hypothesis. The distinction is fundamental, and much of the criticism often made of factor analysis is ultimately referable to this failure to be clear about the status of the factors isolated.

We have discussed so far the *aims* of factor analysis; we must now turn to the *nature* of the factors isolated. A factor may be regarded as a purely statistical concept, an "artifact" if you like, akin to an average, a variance, or an epsilon. This view of the nature of a factor clearly corresponds with the descriptive aim as outlined above. As such, the concept is clear and does not require further discussion.

Secondly, a factor may be regarded as a principle

of classification. This is the view of Burt (3), who likens factors to lines of longitude and latitude. According to this view, factor analysis first removes whatever is common to all the tests or items correlated, and then proceeds by means of a series of bipolar factors to disclose the principal ways of classifying the material under discussion. This is done without rotation of axes, it being assumed apparently that the principles of classification would remain invariant under change of tests or items correlated. This assumption is almost certainly mistaken in the majority of cases, but does not seem to be an indispensable part of this view of the nature of factors.

The third way of looking at factors is to regard them "as if" they were causal agencies. This view is implied in the definition given of the term "factor" a little while ago; it is given clear expression by Thurstone (22, p. 54), who writes: "One of the simplest ways in which a class of phenomena can be comprehended in terms of a limited number of concepts is probably that in which a linear attribute of an event is expressed as a linear function of primary causes." Spearman's (19, p. 75) view is similar: ". . . if meaningful as opposed to statistical, a factor is taken to be one of the circumstances, facts, or influences which produce a result."

There are two main criticisms of this view. Some writers hold the view that even if such causes could be identified in mental life, factor analysis could still not be relied upon to identify and isolate them. Thus Kelley, continuing the quotation in which he defined factors as being purely descriptive, says: ". . . he who assumes to read more remote verities into the factorial outcome is certainly doomed to disappointment" (13, p. 22). Burt (3, p. 231) objects to the use of causal terms on philosophical grounds; he admits, however, that in certain cases "the language of causation is not only convenient, it is almost unavoidable, if we are to remain comprehensible." His main objection appears to be not to the language of causation as such, but rather to the reification of factors.

It is at this point that we encounter the central problem in our quest for the logical basis of factor analysis. It is here, also, that most critics have claimed to find the most vulnerable spot in the armour of factor analysts. If a given factorial solution is "purely arbitrary," just one of an innumerable number of possible solutions, and if it carries no causal implications, then it appears to many critics to differ fundamentally from other types of mathematical solutions, and to give rise to concepts much more insecurely based than those in other sciences.

This type of criticism appears to be based on a profound misunderstanding of the nature of scientific laws and concepts. As Thurstone (22, p. 51) points out:

> . . . the constructs in terms of which natural phenomena are comprehended are man-made inventions. To discover a scientific law is merely to discover that a man-made scheme serves to unify, and thereby to simplify, comprehension of a certain class of natural phenomena. A scientific law is not to be thought of as having an independent existence. . . . A scientific law is not a part of nature. It is only a way of comprehending nature.

In a sense, therefore, the concepts and laws to which factor analysis gives rise are "statistical artifacts"; they are so in the same way that all other scientific concepts and laws are "artifacts." Spearman's *g* (general intelligence) is a statistical artifact to precisely the same extent, and for the same reasons, that Newton's *g* (gravitational force) was a mathematical artifact. Neither has any actual existence, in the sense that a falling stone or an individual who is acting intelligently can be said to exist; both concepts are abstractions which serve to unify and simplify a complex class of phenomena, and both had to be discarded or amended when new facts showed them to be incapable of accounting for all the phenomena. It does not appear reasonable to criticize factor analysis for showing features which are characteristic of all science.

Nor is the alleged "subjectivity" of factor analysis absent in universally accepted forms of dimensional analysis in physics. The physicist Bridgman (2, p. 1) points out that "there is nothing absolute about dimensions—they may be anything consistent with a set of definitions which agree with experimental fact." And Scott-Blair (18) has given an example of alternative dimensional analyses of the phenomena of heat. We may, therefore, dismiss this criticism also as applying to all science equally, rather than just to factor analysis. All science, in a sense, is an "artifact" and "subjective"; the important point is that this artificiality and subjectivity are closely circumscribed by the need always to remain in accord with the facts science sets out to unify and simplify. Those who have had experience in trying to formulate a hypothesis, whether factorial or otherwise, which would account

for a large number of different phenomena will not usually be worried about having to choose one of a very large number of such theories; they will be thankful indeed if even one theory can be found which is not decisively contradicted by several indisputable facts. Psychologists sometimes tend to overcome this difficulty by disregarding those facts not in accord with their particular theory; there is little in the history of science that would encourage such a policy of neglect.

Granted that the most usual objections to factor analysis and the "causal" status of factors are invalid and based on an imperfect understanding of scientific methodology as a whole, our argument cannot be based entirely on disproof of criticism; it would seem desirable to argue more directly from positive evidence. There are four such proofs. The first proof relates to conditions where the causal relations are relatively well understood, and where we can compare the results of factor analysis with independent knowledge of the conditions responsible for the results. An excellent proof of this nature is supplied by the outstanding work of Wenger (24) on the "autonomic imbalance" factor. Following Eppinger and Hess, whose theory of "sympathetic-cotonia" postulated a predominance in certain subjects of sympathetic innervation, Wenger gave a battery of tests involving measures of the effects of autonomic innervation to various groups of subjects, including children and normal and neurotic adults, and carried out a Thurstone-type factor analysis of the resulting intercorrelations. Simple structure revealed in each of several analyses a clearly marked factor of "autonomic imbalance," having high saturations in the predicted direction on the predicted variables. Here we have an intelligible "cause" underlying the observed correlations, and the coincidence of factor saturations with theoretically predicted pattern is surely too striking to be ascribed entirely to chance. It may be noted incidentally that until taken up by factor analysts the Eppinger-Hess theory lay dormant, except for theoretical discussion, for some thirty years, because no other statistical-experimental procedure lent itself to the investigation of this type of hypothesis.

The second type of proof relates to the simultaneous change of scores on all the tests defining a factor when the hypothetical physiological basis of that factor is experimentally altered. As an example we may quote the work of Petrie (17) on the after-effects of lobotomy in neurotic subjects. Basing her work on the hypothesis that patients after operation showed changes on the factors of neuroticism and extraversion-introversion along the lines of *decreasing* amount of neuroticism and *increasing* amount of extraversion, she administered before operation two sets of six tests defining these two factors respectively, and predicted the direction in which change would take place. In all cases tests carried out after operation verified the prediction; in other words, all the tests defining the factor of neuroticism showed changes in the direction of lessened neuroticism, and all the tests defining extraversion showed changes in the direction of increased extraversion. This dynamic proof for the functional unity and biological reality of the factors in question is particularly impressive because of the paucity of statistically significant changes on personality tests previously reported in the literature.

The third method of proof is based on the following argument. It is possible to calculate an approximate index of hereditary determination, such as Holzinger's h^2, for any test which has been applied to a sufficiently large sample of identical and fraternal twins. It is difficult to see how a factor, which is merely a linear combination of test scores, can have a higher h^2 than any of the constituent tests, unless this factor is based on some very definite, underlying biological reality or function which is itself inherited. There is at least one study (6) in which it has been shown that the factor of neuroticism has a higher h^2 (.810) than any of the constituent tests which are combined to give that factor score; the highest individual test h^2 was .701. It seems difficult to dismiss as "subjective" and as a "statistical artifact" a factor having such very definite and obvious relation to biological reality.

The last method of proof suggested here is more indirect than the others, but logically equally important. Factor analysis is often considered to be a complete innovation, something different from, and possibly even contrary to, the usual methods of scientific investigation. It is the burden of this paper to point out that quite on the contrary methods logically identical with factor analysis, though mathematically less exact and rigorous, have been used from the very dawn of science to deal with the type of problem involved in the study of "interdependence." In doing so, they have led on to hypotheses regarding "causes" and to analyses of "dependence" which have greatly clarified the field,

and which would have been impossible without the preceding "factorial" investigations. As this point is crucial to my argument, I shall give two examples of what I have in mind.

Let us take first of all the concept of disease. If we take a particular disease, such as tuberculosis, we know now that it is caused by an identifiable "cause," namely the tubercle bacillus, acting on a human body which may vary from case to case in its resistant properties. This particular disease, however, was known and isolated long before the "cause," the bacillus, was discovered; indeed, unless the disease had already been known as a unitary entity it is difficult to see how its "cause" could have been discovered. How, then, was the disease identified? It was identified essentially in factorial terms, i.e., by the fact that certain physical symptoms—loss of weight, breathing difficulties, high temperature, coughing-up of blood, etc.—tended to go together (intercorrelate) in a certain manner as a "syndrome." No symptom by itself is decisive (none is factorially pure), but the syndrome (factor) suggests one underlying cause which gives rise to the various symptoms, and which may sometime be identified. In a similar way, we identify mental diseases in what is essentially a factorial manner, i.e., in terms of the observed intercorrelation of various symptoms; anyone reading Kraepelin or Bleuler will be able to follow this process in its clearest and most obvious manner. In the mental field we have not yet discovered the underlying cause of the various patterns we observe; until we do we have to rest content, as we had to in the case of physical medicine before the advent of Pasteur, with syndromes (factors). All that factor analysis does is to make explicit and rigorous what the clinician does in any case, often implicitly and without full understanding of his methodology. Both the clinician and the factor analyst may be mistaken, and group together what does not in fact (causally) belong together; medical history indicates a number of errors as well as a remarkable number of successes in this preliminary method of grouping together symptoms in terms of underlying "diseases." It seems reasonable to assume that greater rigor and awareness of the pitfalls involved may decrease the number of errors; there is no way of guaranteeing complete success. The point to stress is that this "factorial" stage is an indispensable preliminary to the "causal" stage; our factor or syndrome tells us what symptoms go together in such a way that we can with some hope of success go on to look for a single underlying cause.

My second example relates to the field of taxonomy in flora (21) and fauna (4). Until the advent of Darwin and the theory of evolution, the only way of telling "what goes with what" in the plant and animal kingdoms was by means of morphology, i.e., by noting degrees of similarity of a large number of outwardly observable characteristics. Thus, specimens agreeing on a large percentage of such characteristics (correlating highly together) were considered to be closely related; specimens agreeing on a small percentage of characteristics only (correlating together at a low level) were considered to be only remotely related. By means of an implicit and nonrigorous factor analysis of these similarities or correlations the whole elaborate system of 19th century systematics was built up. The theory of evolution made it possible to check the resulting taxonomic picture with its implied causal influences against the directly observable causal development shown by Darwinian research. The remarkable result was that in its main outline the picture required very little change; there were many details which had to be modified, but by and large morphology had been an extremely accurate guide to causal relations (4, 20). So here also we find that subsequent causal "analysis of dependence" verifies in considerable detail the results of "analysis of interdependence" carried out along essentially factorial lines. And again, the advances made by Darwin would not have been possible without the spade work of the "systematists" and their implicit factorial approach.[1]

[1] It might be pointed out that factorial logic plays a part even in such apparently remote fields as in the definition of a metal. A metal is electropositive, forms metallic crystals, its halides generally form ionic aggregates and are nonvolatile, but give conducting solutions in water, and its oxides are usually basic. There are, however, exceptions to these rules. Thus $SnCl_4$ is a volatile liquid; ZnO and Al_2O_3 are amphoteric, and some higher oxides such as CrO_3 are acid. Graphite, arsenic, and tellurium, on the other hand, exhibit metallic properties, while counted among the nonmetals. The concept "metal," therefore, rests on the intercorrelation of the various indices enumerated; these correlations are far from perfect, and the only reason for using the term "metal" is the logical implication of a fundamental common feature which unites all metals in a group, and sets them off in comparison with the other elements. This may be an unusual way of looking at chemical concepts, but the logical similarity of derivation is too striking to be passed over.

It may seem fanciful to regard these time-honored methods of analysis as similar in essence to modern factor analysis; yet it would be difficult to deny the essential identity between past and present as long as we consider the logical basis of the procedures involved. It is widely recognized that the correlation coefficient is merely the statistical expression of what Mill called the "method of concomitant variation," and Mill's fifth canon—"Whatever phenomenon varies in any manner, whenever another phenomenon varies in some particular manner, is either a cause or an effect of that phenomenon, or is connected with it through some fact of causation"—certainly preceded in time the statistical superstructure erected on this logical foundation. It is difficult, therefore, to see why a similar process of growth from logical implication and nonrigorous use to statistical elaboration and explicit formulation should not have taken place with respect to factor analysis.

We may conclude, then, that there is both direct and indirect evidence that factorial procedures may lead to genuine causal determinants. It would not be reasonable to say that such a happy outcome would inevitably attend the application of factor analysis; under certain circumstances it may be predicted with confidence that no causal hypotheses will be suggested or proved by factorial methods. In part the outcome of a factorial investigation is determined, of course, by such imponderable factors as the sagacity of the investigator, his skill in framing hypotheses and constructing tests, and his desire to use factor analysis as a hypothetico-deductive tool, rather than as a purely descriptive method. But in part there is no doubt that the actual method of analysis itself will determine the outcome.

At the purely descriptive level, there is little to choose between the methods of analysis advocated by Hotelling, Tryon, Thurstone, or Kelley; the slight advantages of "principal components" are offset by the greater ease of computation of "centroids," and so forth. It is when we come to the problem of rotation that the crucial step occurs. It is clear that we cannot expect a factor to be related in any direct manner to a hypothetical cause unless the factor is unique and invariant in its derivation. Unrotated factors of any kind are usually neither unique nor invariant. This problem is disregarded by writers like Kelley and Burt because the aim for which they use factor analysis is not that of isolating causal determinants. It would appear, however, that Burt at least is not justified in regarding unrotated factors as giving rise to stable "principles of classification" any more than they give rise to causal determinants; they may occasionally bear a superficial resemblance to such more stable factors but logically a Burtian solution is at the same level of pure *ad hoc*, elementary description as is Kelley's.

If we wish, then, to obtain factors which are not ruled out *ab initio* from fitting into a general descriptive-causal scheme because of lack of uniqueness and invariance, rotation becomes necessary. Here the only scheme which deserves serious consideration is Thurstone's suggestion of rotation into "simple structure," with its attendant concepts of "oblique factors" and "second-order factors." I have on occasion been somewhat critical of Thurstone's earlier work, and it is only right to say here that his recent amplification and development of the more rigid framework of "Vectors of the Mind," together with experimentation of my own, have led me to a reversal of this attitude, into almost complete agreement with Thurstone's latest position. Logically, his method of rotation and experimentation generally amount to this. If we can treat our test domain as if its communality were due to a small number of isolable causes, then our best way of isolating and measuring these causes is by purification, i.e., by selection of tests whose variance is due, not to all these causes at once, but only to one or at most two. This should give us clear-cut differentiation and separation of factors; at the same time, the fact that such selection is practicable provides an impressive proof for the usefulness of the original assumption. Logically this argument seems faultless; mathematically, the scheme has not been worked out to perfection, but there seems to be no difficulty in principle.

In certain practical situations, the full Thurstonian procedure may not be practicable for various reasons, and when we have available an external criterion which embodies a certain hypothesis which we are interested in testing, the method of "criterion analysis" which I have described elsewhere (8) may serve as a substitute. This method appears particularly apposite in personality research outside the cognitive field, for reasons which also have been given elsewhere.

We must now pull together what of necessity has been a somewhat rambling discussion of a large number of related points. This summary can best

be put as a series of numbered propositions; these are not meant to be taken as definitive in any sense, but they may serve to give some orientation to the very discursive criticisms of factor analysis which appear from time to time in the literature, and which are almost wholly concerned with the logic, rather than with the mathematics, of factor analysis.

1. Factor analysis is a mathematical procedure which resolves a set of descriptive variables into a smaller number of categories, components, or factors. These factors themselves, in the first instance, may be regarded as having a purely descriptive function.

2. Under certain circumstances, factors may be regarded as hypothetical causal influences underlying and determining the observed relationships between a set of variables. It is only when regarded in this light that they have interest and significance for psychology.

3. The logical justification for inferring a causal factor from observed correlations is identical with the general scientific justification for inferring causes from effects; more specifically, there is formal identity between factorial procedures in psychology and taxonomic and nosological work in other sciences (medical, botany, zoology).

4. The term "cause," in this context, is a concept which aids in the simplification and unification of natural phenomena; like all scientific concepts it is abstract and consequently an "artifact." A scientific concept is not a part of nature, it is rather a way of comprehending nature.

5. Factors, and the causal determinants which they suggest, are "subjective" in the same sense that physical dimensions are "subjective"; they "may be anything consistent with a set of definitions which agree with experimental facts." Their value and importance arises from the objective reference given them by this agreement "with experimental fact."

6. Criticism of factor analysis as a whole, or of one method of analysis by a writer favoring another method, is often vitiated by (*a*) lack of historical perspective, (*b*) lack of scientific sophistication, (*c*) lack of understanding of the particular problem which the factor analyst is trying to solve. It is usually easy for the critic to invent a problem which the analyst did not try to answer, but to which his answer would have been wrong or nonsensical. This is not a useful form of criticism.

7. The factorial method, no more than any other, cannot guarantee the correctness of the causal hypotheses suggested by it. Historical evidence reviewed suggests, however, that it is more successful than any alternate method, and that the hypotheses generated by it have proved remarkably accurate when direct experimental test became possible.

8. As indicated above, much nosological work in medicine and psychiatry is essentially of a factorial kind, although lacking the rigor and explicitness of factor analysis. It seems likely that a more formal use of these recent mathematical developments will improve more intuitive "clinical" types of analysis.

9. Methods of statistical analysis, and particularly questions of rotation, are dependent on one's views of the aims of factor analysis, and of the nature of factors; implications of causality require rotation into simple structure, while purely descriptive aims are satisfied equally by nonrotated factors.

10. In the present stage of development of psychology, factor analysis is an indispensable method of taxonomic and nosological research. Knowledge of its historical roots, its logical basis, as well as its statistical methodology, should form part of the training of every psychologist who wishes to understand the standard scientific method of defining concepts in personality research.

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PSYCHOLOGY AS A SCIENCE, AS A TECHNOLOGY AND AS A PROFESSION[1]

Address delivered Thursday evening, July 26, 1951 at the 10th International Congress of Psychotechnology, Gothenburg, Sweden

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YOUR thought is invited this evening to the steady growth of our discipline. This phenomenon is worldwide. In Scandinavia it was relatively late in starting, but is now proceeding apace, as elsewhere.

We are called upon at this Congress to make decisions about international organization and cooperation, as well as about the steps we shall take to encourage a wholesome growth of psychotechnology in the various countries of the world to which we shall presently disperse.

I maintain that the development of psychotechnology is inextricably bound up with the development of psychological science on the one hand, and on the other, with the youthful profession of the practicing psychologist. These three activities of modern psychology—scientific, technological, and professional—must not be severed. Their vitality and strength derive from the same roots. They are organs of one body. Shall we passively permit the powerful centrifugal forces of specialization to rip this organism apart? I hope not.

First, let us be clear as to terms.

Psychology is familiarly defined as a science which aims to describe and to explain behavior. By resort to accurate observation, measurement and experiment, it undertakes to provide the knowledge with which to understand what living organisms do —in particular what people do—and why.

Psychology as a technology has to undertake the still more difficult task of finding ways of predicting and controlling behavior. It is called upon to help in achieving the aims of industry, of education, of mental hygiene, of commerce, of government. Indeed, psychotechnology might be defined as psychology directed toward aims other than its own.

It remains to define psychology as a profession and to make clear the difference between the practitioner and the psychotechnologist. A psychological practitioner is a psychologist who earns his livelihood, not by teaching his subject nor by carrying on research, but by helping a client who has specific problems, whether those of an individual, a business firm, or an institution.

Psychology as a science and psychology as a technology have developed *pari passu* within the span of a single human life. When Wilhelm Wundt's laboratory was established in Leipzig, was not Professor Piéron, our own honored leader, already living? Piéron and his colleagues have contributed richly to the development not only of psychology, but also of psychotechnology. The record of growth of both the science and the technology during the past half century can best be traced in the fifty volumes of *L'année psychologique*.

Let me remind you that not only Piéron, but nearly all of the great psychologists with the conspicuous exception of Titchener, have made substantial contributions to psychotechnology as well as to psychological science.

One thinks instantly of what Ebbinghaus did for educational psychology. Pierre Janet was not satisfied to investigate the phenomena of normal and abnormal psychology. Carrying on the torch of Charcot, he lighted the way for mental therapy. Cattell, following Galton, forged the tools with which Thorndike and hundreds of others have studied individual differences in relation to business, industry, education, and vocation. Lightner Witmer, brilliant experimenter, early set the pattern for the psychological clinic. Münsterberg's dreams of a comprehensive psychotechnology applied in

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courtrooms and on the highways as well as in factories, offices, and stores, have to an astonishing degree come true. His facile imagination foresaw the birth of several technologies—among them, personnel management and vocational guidance. Charles S. Myers laid a solid foundation for a psychotechnology of human relations in industry.

As I speak, you are recalling similar examples from other lands and in other areas of application like those of our late Secretary-General, J.-M. Lahy, in the fields of transportation and of industrial management; Edouard Claparède, whose prolific pen left a rich heritage to our technology as well as to our science; Jaederholm here in Scandinavia; Ponzo and Gemelli in Italy; Michotte in Belgium; Lipmann and Stern in Germany; Ishihara in Japan. Not one of these names could be omitted from a history of psychotechnology nor from a history of psychological science. Have not these references to leaders in the two fields already suggested that a psychotechnologist is fundamentally a psychologist?

Without laboring the point, it is further suggested that the *practitioner* of psychology, using the instruments and techniques developed by psychotechnology, likewise must be grounded in psychological science.

The program of papers at the recent International Congress of Psychology in Stockholm beautifully illustrates the wide overlap of these fields. Among 150 titles, I found more than half which would have been appropriate as contributions to a Congress of Psychotechnology. But Professor Katz, the president of the Stockholm Congress, assured me that practically all those papers are contributions to scientific psychology. Very well! We need not dispute the point. Instead, we can willingly grant that we are both right.

Have you not been impressed with the fact that a research designed to solve a specific practical problem has often turned out to be a contribution to science also? And vice versa?

The interdependence between scientific and practical activities within our discipline is neatly illustrated in one of the early inventions of the eminent Swedish-American psychologist, L. L. Thurstone. When an instructor teaching a graduate course in statistics thirty-five years ago, Thurstone chose to illustrate the j.n.d. and the equality of equally-often-noticed differences, not by requiring his students to repeat the classical experiments on discrimination of lifted weights, but by letting them compare things of contemporary importance, as, for example, statements expressive of a person's attitudes toward the prevailing economic system. Thus was produced the first scientifically constructed scale with units known to be of equal magnitude, for use in measuring attitudes such as radicalism-conservatism. This method of scale construction was eventually recognized as valuable alike in general and social psychology, personnel psychology, political science, and business research.

Scales constructed in this way were recently employed, for example, by F. F. Bradshaw, president of Richardson, Bellows, Henry & Co., a New York firm of industrial psychologists. Dr. Bradshaw was engaged by a New Jersey plant to facilitate and improve communication back and forth between the workers, supervisors, foremen, superintendents, top executives, and members of the policy-making board of directors. But before beginning a series of round-table conferences to this end he measured the currently held opinions and attitudes of these groups, and also ascertained what the directors thought the attitudes of their employees were. There was wide disagreement among them. Two or three of the top men held views that were extremely conservative, if not reactionary. A second small cluster was near the opposite end of the attitude scale, while the other members of the directorate were scattered between these extremes. The very conservative directors held the view that most of their employees were very radical.

After completing the program of round-table conferences, alternate forms of the original attitude scales were used, to ascertain whether any significant changes had occurred. The outcome was convincing. There was much more agreement. Among the directors, for instance, none were found near the extreme right or the extreme left of the attitude scale. And their opinions regarding the attitudes of their workers were more realistic. The scales enabled Bradshaw to measure and to demonstrate the amount as well as the direction of these changes.

This interdependence of psychological science, technology, and practice requires that we develop and maintain a common terminology. What the research psychologist discovers, what the psychotechnologist adapts to useful ends, should be described in ways meaningful to the practitioner of the psychological profession, and when possible, to his client also.

Not always has this objective been remembered

by our psychotechnologists. Those who construct new tests and offer them after validation for use in individual appraisal and guidance, have too often grossly neglected their obligation to furnish practitioners with precise information about *the meaning of an individual's score*. Having provided a table of norms and one or more coefficients of validity, they have left the user of the test to estimate very roughly, as best he can, the likelihood that a client who makes a certain score will achieve a designated cut-off point on the criterion scale. This *expectancy*—this number which tells the chances in a thousand or in a hundred that the client will do at least as well as such-and-such members of the criterion group—is not hard to compute, given a coefficient of validity and assurance of linear correlation between the predictor and the criterion. But most practitioners do not have either the time or the statistical self-confidence to compute their own expectancy tables, or to make up their own abacs. These should be computed by the test authors and supplied in the test manuals. Several types of such tables and charts are illustrated in an article called "Expectancies," which I contributed to the Piéron Jubilee Volume of *L'année psychologique*. Such tables are of the utmost service when a practitioner wants to make clear to a person the meaning of his test score, his aptitude index, or any other validated predictor of academic or professional achievement.

To summarize: Psychology as science observes behavior under such conditions of control that our knowledge of behavioral facts and their concomitants is enhanced. The aim of psychology as science is to systematize and to generalize about these facts of behavior. Applied psychology is psychology in the service of aims other than its own. These aims may be personal, social, commercial, political. The content of scientific psychology and of psychotechnology cannot, however, be neatly separated and compartmentalized. The two areas overlap widely.

Psychology as a technology and psychology as a profession are likewise most readily distinguished by their aims. The professional practitioner accepts responsibility for advising a client and helping him to achieve his purposes. The practitioner has at his disposal the resources which psychotechnologists have provided. These include techniques of investigation, of measurement, of diagnosis, of training, and of motivation. A psychologist whose primary concern is to add to this armament of techniques and to train others to make wise and skilful use of them we call a psychotechnologist or, if you prefer, a technopsychologist. The practitioner is one whose occupation it is to utilize these techniques for the benefit of his clients.

Instances are not rare of psychologists who have won distinction in all three capacities: as scientists, technologists, and practitioners. Many of you in this room from time to time have accepted more than one of these roles.

Of these, the role of psychological scientist is primary. Let us insist always and everywhere, that society must not be compelled to turn for help to practitioners who are *not* first of all psychologists.

And finally, let us do nothing in the field of national or international organization to create or to widen a gap between the scientists and their allies, the practitioners of psychology.

The following paragraphs originally included in the Gothenberg address were omitted from the published version.

This paper ventures to draw the attention of this Congress to a powerful and potentially dangerous trend in the development of psychology, and to offer a single suggestion toward counteracting this tendency.

The danger to which I refer confronts psychologists in every land. We are losing our unity as a profession. We have been caught by powerful centrifugal forces generated by the extraordinarily rapid growth of psychology in our time.

The speed of this development is not always recognized. The science of psychology has achieved maturity within the short space of a man's life—for all of my seniors in this room were living when the Leipzig laboratory was established. We have witnessed not only the growth of an experimental science but also the parallel development of a substantial psychotechnology; and in recent decades the art of professional practice, younger, still without an adequate code of professional ethics and the machinery for its enforcement, nevertheless approaches an ungainly but vigorous adolescence. Psychology is now a profession as well as a science and a technology, a handmaiden of medicine, of education, of social service; and subsequently, of penology, law, business, industry, and government. Most recently, biomechanics—the adaptation of the machine to the worker.

The ramifications of specialization have tended to reinforce powerful centrifugal tendencies.

In the U. S. A. the growth of the *profession* of psychology has been exceptionally rapid, as measured by the number of its practitioners and by the variety of fields in which they are currently practicing. In 1911 I became Secretary-Treasurer of the American Psychological Association. There were found 222 names on the list of members. Several of these were Doctors of Medicine as well as psychologists. A still smaller number were priests or hospital administra-

tors or practitioners of a profession such as architecture who had psychology also as a life interest; but most of us were living academic lives, university professors, earning a livelihood as *teachers of psychology* in institutions of higher learning. I recall only one psychologist who was engaged in private practice with no institutional affiliation. Since then our membership has multiplied 40-fold and the center of gravity has shifted. Of the more than eight thousand members today, less than half are in academic employment. Our salaries as psychologists are no longer earned principally in universities, colleges, or technical institutes, but in social agencies, hospitals, business firms, life insurance agencies, factories, offices, prisons, and government bureaus, or in school systems where the demand is for psychological services, not for class instruction in the subject matter of psychology. In these times, the universities must prepare more psychologists to practice psychology than to teach it.

It is but natural that this rapid growth of psychology, not only in numbers but in the variety of its responsibilities, should lead to sharp differentiation of interests, to specialization, and to a proliferation of professional societies and journals reflecting these diverse specialties. The danger that impends is the fragmentation of our profession, if these groups choose to go their separate ways, loosening their close relation to the parent stock.

Such a future would be disastrous to each field of specialization which eventually finds itself isolated. Psychology is one. Practitioners, technologists, scientists, all must be psychologists even though some strive primarily to further the aims of the science, while those in fields of application work serve other aims, be they educational, commercial, social, governmental, or the aims of an individual client in search of the fullest realization of his potentialities.

Manuscript received September 9, 1952

(This manuscript was submitted posthumously.)

THE MANPOWER SYMPOSIUM AT THE 1952 ANNUAL APA MEETING

IRVING C. WHITTEMORE

Selective Service

ONE of the most impressive and best attended symposia of the 1952 Annual APA Meeting convened Wednesday evening, September 3, in the ballroom of the Mayflower Hotel. Dr. E. Lowell Kelly of the Board of Directors presided. This symposium was scheduled as an Association activity rather than as a divisional project on the ground that the subject matter was of sufficient current importance to justify special scheduling. The panel of speakers included two well-known members of the APA, a physicist-administrator, a research economist, and a soldier-statesman.

From the ranks of the Association came Leonard Carmichael, secretary of the Smithsonian Institution and wartime director of the National Roster of Scientific and Specialized Personnel, and Dael Wolfle, director of the Commission on Human Resources and Advanced Training of the Associated Research Councils. The National Research Council supplied Dr. M. H. Trytten, director of the Office of Scientific Personnel. Dr. Eli Ginzberg, of Columbia University, is director of research for the National Manpower Council. Major General Lewis B. Hershey, a professional soldier for many years and presently the Director of Selective Service, represented Government.

While some of the members of the symposium appeared to be using a script, most did not. In general the atmosphere was informal rather than didactic. Without verbatim stenographic reports it is practically impossible to capture the spirit of a panel discussion. The present account makes no attempt to do so, but rather to reproduce the background that led to the programming of the symposium and the type of thinking stimulated by the contributions which might reasonably constitute its outcome.

In the 176th year of its existence the United States of America faces in many respects the most puzzling international situation which has ever confronted the nation. We are not at war, yet more American boys have been killed and maimed in the Korean anti-communist campaign than were injured in World War I. For the first time we are faced with the necessity of maintaining a program of peacetime conscription over a period of years. Except in the case of reserve officers and men, who in a sense volunteered for such duty by accepting enrollment in the reserve, the public sense of fair play prevents us from calling upon for military service those who have already put their lives in jeopardy in World War II. For some years the nation's available manpower pool, then, has consisted of the young men who have come of military age since the close of World War II and who have not yet been called upon to serve in the armed forces. The Joint Chiefs of Staff have declared that it is essential for the United States to maintain a total armed force in the neighborhood of 3,500,000. The Congress has declared that no one should serve in the present emergency for more than 24 months against his will, and has also restricted the ages of vulnerability to Selective Service to from 18½ to 26 (unless the individual has been deferred for some reason, in which case his liability is extended to age 35).

As a consequence, the demand of the armed forces for personnel since the outbreak of aggression in Korea has resulted in the gradual diminution in the available manpower resources of the nation until it is expected that in the not-distant future our sole reliance will have to be upon the 18½-year-olds in each successive year.

Only the most prejudiced are likely to disagree with the statement that America's greatest contribution to victory over Germany and Japan in 1945 was its contribution of material and supplies. To a greater extent than was true in almost any other nation, with the possible exception of Great Britain, American manpower was deferred from service in order that the productive capacity of the country should not be diminished by a failure of numbers. German prisoners of war never conceded the su-

periority of our military methods but they were aghast at the prospect of having to continue a struggle against the types of material which they saw on the roads of Europe in the hands of American soldiers and their allies. In a very real sense it was the factories at home which won the war rather than the soldiers on the firing line.

In a temporary emergency, such as the major wars fought by the United States have constituted, there has not yet been a compelling need to replenish the scientific and technical brainpower responsible for the productive effort. Although England made some effort to direct the best technical minds into channels in which these minds might be of greatest use to the nation, the United States did not, during the period 1940 to 1945, feel it necessary to resort to a similar major diversion of young intellectuals from military service. In the present situation, which is neither war nor peace, those responsible for the mobilization of the country have had to plan for the maintenance of our current intellectual and technical as well as military resources. No one can doubt that a good atomic scientist in 1944 was worth a division.

It was the problems intrinsic in the situation represented by this review to which the members of the American Psychological Association Symposium on Manpower addressed themselves.

DR. CARMICHAEL

Dr. Carmichael opened the proceedings with the observation that if there were a scarcity of laboratory chimpanzees it would be possible to assign them to various research institutes and to make the best possible use of them there, but when it comes to human beings with their feelings and hopes, the chimpanzee solution is not satisfactory. Any program must be flexible and we should maintain a current census of the intellectual resources of the nation. He believed that the Department of Defense should be made to state its manpower requirements in realistic terms, that personnel should be "screened in" not out. There are numerous situations in which 20/20 vision is not necessary for the performance of important military duties. We need manning tables, but it is admittedly difficult to project our needs into the future and these manning tables should be constantly revised. He declared that the Selective Service College Qualification Test procedures represent a desirable method of screening the persons most qualified to carry on the developmental and research programs necessary to the security of the nation.

There is no simple formula in accordance with which "equality of sacrifice" may be attained, nor is this equality of sacrifice necessarily desirable. Some people would be more effective in a military role after rather than before training. In other cases the reverse would be true. The essential question to be asked is where may the individual most appropriately make use of such skills as he possesses.

DR. WOLFLE

Dr. Wolfle reviewed the statistics concerning the quantity and nature of the special skills upon which reliance must depend for research and developmental activities. He pointed out that in our present culture college training is necessary for most "specialties." About one in eight young men and women of college age actually graduate from the colleges—perhaps one in five start.

Where the average level of performance on the Armed Forces Qualification Test is represented by a score of 100, average young persons graduating from a higher institution of learning score 121. This score is probably slightly higher in the case of university and liberal arts graduates, say 126. It is true that some 10 per cent of the people who attend college score 100 or below on the AGCT. On the other hand, only 37 per cent of the total population scoring above 120 actually complete college. Nearly two out of three in this group do not graduate because of lack of money, or of preliminary training, or of interest. Of the top 2 per cent in AGCT scores about two-thirds finish college, of the top decile nearly half, and of the top 33 per cent, about one-fourth finish college.

Many young men with AGCT scores of over 120 go into the armed services voluntarily, some through the ROTC, so that it cannot be said that present Selective Service policies deprive the armed forces of all the bright young men.

There can be no question of the increasing demand for specialized personnel. In 1900 only 4 per cent of the total population was engaged in activities which might be so classified. In 1950 the proportion had risen to 9 per cent.

In the long run our best preparedness will rest upon adequate numbers of trained personnel available to the civilian economy and to the armed forces.

DR. GINZBERG

Dr. Ginzberg opened his remarks with the observation that, since economists have not yet solved the problem of materials, we can scarcely expect them to solve in addition the problem of manpower. He confessed himself somewhat puzzled by the meaning of the term *manpower utilization.* Take, for example, the problem of training. Training for what? A lot of engineers become executives. Does utilization imply a time element? Do we mean that a person who has not worked the maximum number of hours per week of which he is capable is malutilized? When we speak of the proper utilization of manpower are we referring to the utilization of the powers of the man himself as distinct from other persons, or as a member of an organization? There arises also the question of values. When we promote officers in the medical corps to the grade of *general,* are we utilizing their professional competence or are we converting them into something other than physicians? Many young men in all kinds of work have to wait for promotion when qualified by both experience and capacity to work at a level above that which their assignment calls for. Are these young men being improperly utilized or not?

In relation to the problem of utilization there are five moral dilemmas: (*a*) Are the controls characteristic of professional training essential except to protect levels of pay? (*b*) When associations of specialists require conformity to a fairly rigid ethical and professional code, does the degree of conformity demanded mask prejudice or is it actually in the best interests of the profession and society? (*c*) In relation to the problem of utilization there will always be conflicts as between age and youth, the problem of seniority. (*d*) Is the leader always superior to the follower? (*e*) What is the criterion of utilization with respect to women? Is the "double standard" with respect to pay and responsibility justifiable? Utilization always implies norms, and these mean of course that there are social and moral issues involved. In this country manpower as a problem is relatively new. We have only recently become concerned with making the best of each man.

DR. TRYTTEN

Dr. Trytten traced the origin of the setting in which present manpower problems must be considered. According to him it is unusual in the history of America—compulsory service in time of peace is relatively new. Our present experience is based largely upon that of World War II, but the goals of the present mobilization are different.

We must maintain armed-forces-in-being of a certain minimum size, and in addition provide for the training of increments thereto. The over-all goal is the development of maximum national strength, not the creation of armed forces for their own sake. The authority to mobilize is contained in the Universal Military Training and Service Act of 1951. This legislation sets the age and time in accordance with which compulsory service may be required. It establishes ground rules. For the maintenance of an armed force of around 3,500,000 men, some one million will be required annually as replacements if the maximum period of service for those inducted is 24 months. About 1,000,000 men come of age each year. Of these only some 750,000 to 800,000 are likely to be acceptable to the armed forces in terms of physical and mental health. So far, the pool of men built up as a result of the conditions obtaining between 1946 and 1950 has been sufficient to take care of annual replacements. This reserve has dropped from some 3,500,000 to 1,200,000 since Korea. In all probability it will disappear within a year to eighteen months. When the pressures for manpower become stronger than they are at the moment, the whole concept of student and occupational deferment will be at stake. The central problem confronting us at the moment is how we can preserve the principle of such deferment in the public interest in the face of the need for military manpower.

GENERAL HERSHEY

General Hershey was the final speaker on the program. To anyone who has heard him in one of his public appearances it will be easy to understand why a report of his remarks often fails to convey their meaning. The General is highly adaptive to the reactions of his audience and intersperses his statements with witticisms and homely illustrations that seem discursive but usually end up in exactly the impression he has wished to achieve. His style makes his observations difficult to paraphrase, and to condense them is likely to lead the reader to a conclusion quite different from the listener's.

On this occasion the General spoke for some time of the over-all problem in terms of manpower po-

tential, the gradual reduction of that potential, and the practical consequences resulting therefrom in terms of the availability of "bodies" and the nature of anticipated public reaction.

He approved discussion of the problem because it has become his conviction over the years that in a democracy sound policy can result only when the people know and react to all major issues, and nothing is closer to the heart of the people than the use of its sons in war.

He said he sometimes fears that the boys who are able to avoid military service are the ones who know either too little or *too much.* The percentage of persons rejected as mentally incompetent by the Armed Forces Examining Stations is alarming. The Selective Service System has no control whatever over this rate of rejection, although few people seem to realize it. He pleaded for a more realistic appraisal of both mental "competence" on the one hand, and military serviceability on the other. It was clearly his conviction that psychologists have a responsibility not merely to determine scores on a mental test, but to interpret and evaluate these scores in such fashion as to disqualify fewer persons for military service for mental reasons than is now the case. In substance he challenged the profession with the words "Let's *get* some of the *flat*heads!"

Following the speakers some members of the audience raised questions from the floor, but none which substantially altered the scope and tone of the discussion.

SUMMARY

While the outcome of a symposium can never be stated in the exact terms of a piece of carefully designed research, it is reasonable to suppose that listeners carried away from this meeting some fairly concrete impressions. For example, there was general agreement among the participants that (1) a manpower problem existed, (2) the relation of scientific and other skills to this problem is an important aspect thereof, (3) a solution in a democracy must rest on a subtle pattern of values, and (4) the problem is due to become more rather than less difficult in the near future. An objective solution to the military and civilian manpower problems of today is obtainable if those with competence in the field think constructively and speak convincingly to the men of action.

Manuscript received October 10, 1952

Comment

Psychologists in Hawaii

The October, 1952 issue of the *American Psychologist* contains an article by Robert P. Clower entitled "A Preliminary Survey of the Distribution of Psychologists in the United States." Data for the 48 states and the District of Columbia are tabulated and discussed, but Hawaii is not mentioned. Since we in Hawaii are very much a part of the United States, and especially since there is good reason to believe we shall constitute the 49th state in the near future, I submit the following data to supplement Clower's article.

The population of the Territory of Hawaii in 1950 was 471,447. The 1950 APA Directory listed 26 psychologists. The number of psychologists per 100,000 population was 5.5, a figure which considerably exceeds that for the continental United States and exceeds that for 40 of the 48 states.

Eighteen of the 26 psychologists listed hold the PhD degree, 7 the MA, and 1 an MD. The percentage holding the PhD is 69.23, which is higher than that for 42 states.

Seventeen of the 26 psychologists listed were affiliated occupationally with the University of Hawaii, one was employed by the Federal Government, and three were in private practice. The percentage engaged in private practice, 11.54, exceeds that for any of the states reported in Clower's article and is 4 times higher than that reported for the continental United States as a whole.

HERBERT B. WEAVER
University of Hawaii

Scientific Writing

My congratulations and personal thanks for the article by Hebb and Bindra, "Scientific Writing and the General Problem of Communication" (*Amer. Psychologist*, 1952, 7, 569–573). This discussion is the first within my ken to bridge the gap between the artist who shuns analysis and the analyst who does not recognize artistry.

As one who is neither a polished artist nor an accomplished scientist, but who aspires to be a bit of both, I should like to toss in a few supplementary remarks. Fowler's *Modern English Usage* should indeed be the writer's Bible. Those intent upon improving their styles could also read, with profit, Emerson's essays and Conrad's novels. Despite long sentences and relatively little human interest content, Emerson is quite readable because of the majestic rhythm of his prose. Conrad's short sentences and simple constructions achieve an equally pleasing rhythm. Read close together, Emerson and Conrad offer an interesting contrast. Perhaps the greatest technician the English language has ever known is Logan P. Smith. His three books of essays, *Trivia*, *More Trivia*, and *Still More Trivia*, are examples of triple-distilled style. Their content is, as their titles imply, merely a vehicle for elegant arrangements of words.

Those scientists who lack the time, energy, or interest to polish their use of English would be well advised to adopt a simple formula: declarative sentences without subordinate clauses. And above all they should eschew the passive voice, which leads to clumsy constructions. Thus stripped down, English may be monotonous, but at least the reader can progress swiftly, cheered by the hope that the next article may be more engagingly composed.

GEORGE A. W. BOEHM
Science Editor, *Newsweek*

Audiovisual Aids

The increased use of audiovisual aids poses a question to Robert Tyson (*Amer. Psychologist*, 1952, 7, 546) of how best to meet this threat so as to prevent the teacher from becoming either an "auxiliary" or from being "displaced." I wonder if this threat is more imagined than real.

Perhaps our Mental Health Society's experience with audiovisual aids on a community level may enlarge the scope of the perceived relationship of the teacher to these media. In general, I feel that, rather than narrowing or delimiting the role of the "me" in the me-other relationship, more and more requests are made for the personnel of our clinic as well as the Mental Health Society because of our initial reliance on audiovisual aids.

In addition to discussion groups, panel discussions, buzz sessions, seminars, and institutes, we are constantly using films, radio programs, tape recordings, psychodrama and role-playing techniques. Our educational program has given us an entree to the local citizens' homes, the high schools, the local college, PTA groups, teacher institutes, mother study groups, personnel clubs, the Chamber of Commerce, the churches. In fact, our community relationships involve almost every local institution and organization.

But more important has been the challenge of the continuing growth of our educational program. Initially, it was primarily the clinic staff member who conducted a program, built around a film, and sometimes a skit. With increased demands on clinic time, our need for more leaders is being met by using lay

people, teachers, ministers, mothers, board members, and volunteers. This, in turn, has led to an awareness of the need for leadership training programs which stress the meaning of mental health, program planning, and group dynamics.

At present, we feel there is a need for still more intensive training. We hope to use one of the local schools as a demonstration project for a "total push" mental health program. Then, too, we hope that the time is not far distant for more intimate work with teachers regarding the importance of their role in the classroom. Such a program may well take on a group therapy relationship. Finally, we plan intensive mother study group programs that will extend over a period of several months with one group.

Instead of limiting our role, the use of these various educational methods has extended our previously conceived vistas of mental health education. They have focused the need for more intensive rather than extensive educational programs. However, I do not feel that the value of these media is intrinsic. Rather, to a large extent, the responsibility for their use rests with us as individuals. I feel strongly that instead of becoming an "auxiliary" to this mechanization or feeling any impending doom or disaster, the use of these media has led, rather, to the use of other auxiliaries (personnel and programs) to keep up with the demands generated by group awareness.

HARRY CONSTANTINE
Mental Health Clinic, Rockford, Illinois

What Is the "Real" Problem?

During the depression of the nineteen-thirties, a counseling psychologist of Freudian orientation was beginning her fourteenth interview with an unemployed male client. With rapport properly established by the proffer of a cigarette and a few pleasantries about the weather and the ball game, she put on her professional smile and inquired, "What shall we talk about today?" Her client responded, "Well, I think we ought to talk about how I'm going to pay my rent, but if you want to talk sex it's OK with me."

Today our preoccupation with sex is a little less complete than it was a few decades ago, but many of us still seem to base our counseling on a series of unverified assumptions which run something like this:

1. Every client has both a "surface" problem and a "real" problem.
2. Every client first presents his "surface" problem.
3. The counselor, not deceived, proceeds patiently to help the client to discover, recognize, reveal, and face his "real" problem.
4. When the "real" problem has been identified the counselor helps the client to learn how to deal with it effectively.
5. With the "real" problem thus disposed of, the client is able to solve his "surface" problem without the counselor's aid.

There is enough truth in these assumptions to lend them a spurious plausibility. There is enough evidence to indicate that the assumptions are valid for some clients. What leads the detached observer to raise an eyebrow is the frequency with which the "real" problem proves to be the problem which most interests the counselor and with which he feels most competent to deal.

This human tendency to project ourselves was neatly demonstrated[1] as far back as 1914, when twelve skilled and experienced male social workers interviewed some 2,000 consecutive homeless applicants for admission to the New York Municipal Lodging House. Each applicant was separately interviewed for twenty to thirty minutes, during which time the interviewer sought to determine the real cause of the applicant's destitution. One of the twelve interviewers was an ardent believer in prohibition. He found "liquor" to be a major or minor cause of destitution in 78 per cent of the cases that he interviewed; he found industrial circumstances, such as "lay-off," "seasonal work," or "shutdown" to be a major or minor cause in 29 per cent of the cases. Another interviewer was regarded by his associates as a socialist. His corresponding percentages for the cases he interviewed were 37 for liquor and 73 for industrial circumstances.

Would we not be more scientific in our approach to counseling if we regarded with more suspicion our tendency to identify the real problem as the one which interests us?

ROBERT HOPPOCK
New York University

Things of Science

Science Service puts out a monthly demonstration or experimental kit that is of interest to psychologists in two ways. As a well-designed series of simple experiments on diverse aspects of pure and applied science, it represents a significant attempt at extracurricular science education for children (and their parents). But it is equally interesting as an inexpensive source of material and equipment for large elementary courses in psychology. Several recent kits come under this classification:

No. 98 (Dec., 1948). Color Unit. Contains a substantial color top, with graduated disc, seven (Munsell) colored discs, and a red filter. The booklet, prepared with the aid of Dr. Deane B. Judd, gives adequate instructions for 28 simple experiments, including color

[1] RICE, STUART A. Contagious bias in the interview. *Amer. J. Sociol.*, 1929, 35, 420–423.

mixing, contrast, effects of illumination, and even brightness constancy.

No. 130 (Aug., 1951). Color Vision Unit. Contains a Pseudo-Isochromatic Plate for testing color perception (American Optical Co.), material for a color confusion chart (designed by Lt. Comdr. Dean Farnsworth), and a metameric pair (two samples of cloth, both green in daylight, one of which becomes brown in Mazda light). The booklet gives 14 experiments, which are somewhat less traditional than those in No. 98.

No. 140 (June, 1952). Highway Safety Unit. Contains a Stimsonite directional reflector, as well as reflective fabric, sheeting, and beads that can be used with paint. The 18 experiments include binocular depth perception, field of vision, dark adaptation (including monocular), and reaction time. Most of the experiments are due to Dr. T. W. Forbes, but the present writer contributed a description of how to convert a meter stick into a silent and accurate chronoscope (after Piéron).

No. 144 (October, 1952). Visual Illusions Unit. In addition to many of the standard geometrical illusions, it contains several of the Ames demonstrations: trapezoidal window, a plastic aniseikonic lens, and a cut-and-paste pattern for a distorted room. The 23 experiments were prepared with the aid of the Institute for Associated Research, Hanover, New Hampshire.

No. 145 (November, 1952). Taste Unit. It contains samples of citric acid, sugar, rock salt crystals, quinine, magnesium sulfate, P.T.C., and chewing gum. The 16 experiments cover taste, taste blindness, and the distinction between taste and smell. The Arthur D. Little Co. helped with the selection of specimens, and Dr. Albert F. Blakeslee invited subscribers to report data on taste blindness to him.

Although subscriptions are handled on an annual basis ($5.00), kits may be purchased singly at $.75 each, or three for $1.50. In general only enough of these kits are issued to supply members, but there is usually a small overrun. Only a few of No. 98 and No. 130 are available at this writing, but a sufficient quantity of No. 140, No. 144, and No. 145 are on hand to meet even multiple demands. Order Things of Science from Science Service, 1719 N Street N.W., Washington 6, D. C.

HAROLD SCHLOSBERG
Brown University

Classification of Papers at the 1952 APA Meetings

I have been amusing myself by attempting some classification of the abstracts of the papers presented at the Washington APA meeting. It seems obvious that any purist who has preconceptions of what constitutes a proper subject matter for psychology will be shocked at the seeming irrelevance of the majority of the papers! Judging from these papers there is not one science called psychology but instead several sciences (social, biological, applied, and otherwise) all of which are called psychology by someone.

Even though sheer quantity of work is no indication of the ultimate importance of any topic, the following breakdown of these abstracts indicates that the applied areas are now of great interest to psychologists.

	No. of Abstracts
Applied	
Educational	29
Clinical and counseling	70
Industrial and public service	17
Military	33
Geriatrics	20
Total	169
Semitheoretical	
Human learning and performance	25
Child development	10
Social	49
Personality	13
Measurement and testing	54
Total	151
Theoretical	
Animal learning and motivation	38
Brain function	4
Perception and sensation	22
Esthetics	4
Total	68
Unclassified	3

Since symposia and discussions are primarily theoretical, perhaps this classification, which ignores them, does not do justice to the theoretically-minded psychologists who attended the 1952 meeting.

HAROLD WEBSTER
University of Kentucky

The Ages of Scheduled Participants at the 1948 APA Annual Meeting

According to the July, 1948 issue of the *American Psychologist* 458 individuals were scheduled to participate in the 1948 annual meeting of the APA. Since the *1948 Directory* listed a total of 5,047 members, it is apparent that less than 10% of the total membership participated formally at the Boston meeting.

One of my students, Mr. Bernard A. White, assembled statistics with reference to that participation which permitted the following analysis. He divided the participants into the two following groups: (*a*) those who read papers, and (*b*) those who participated in ways other than the reading of papers, i.e., participation in symposia, addresses by the APA president and by the divisional presidents, the showing of slides and films, and miscellaneous "other" formal participation. The

next step was to ascertain the ages of all participants and also the number of APA members by age-group. The ages of 6% of the participants and 11% of the total APA membership could not be found readily. The following findings are based therefore upon 94% of the participants and 89% of the total membership.

In constructing the graphs that appear in this article, the data for each of them were first reduced to a comparable basis by the following procedure. The peak of each statistical distribution was arbitrarily assigned a value of 100%, and the other averages within the same statistical distribution were assigned proportionate percentage values. For example, in Fig. 1 the peak of the distribution occurred at ages 30–34, inclusive. At this age interval the average number of papers read per APA member was .0902. In Fig. 1 the decimal .0902 is plotted therefore as 100%. At the age interval 60–64, inclusive, the average number of papers read per APA member was .0231. This latter decimal fraction is equivalent to 26% of the maximum (26% of .0902) and in Fig. 1 the decimal .0231 is therefore plotted as 26%.

For the entire APA membership the average number of papers read was .0539 per member. This latter decimal fraction is equivalent to 60% of the maximum (60% of .0902). In Fig. 1 the horizontal broken line is drawn at the 60% level. If each age-group had read papers in proportion to its numerical strength, the solid line of Fig. 1 would coincide with the horizontal broken line.

But the successive age-groups did not read papers at the Boston meeting in proportion to their numerical strength. The solid line of Fig. 1 reveals on the contrary that papers were read *more* often than would

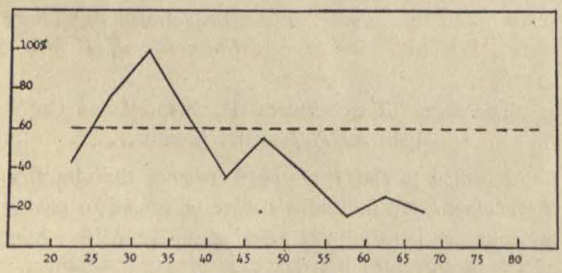


FIG. 1. Solid line: Number of papers read by members of each age-group, in proportion to membership, at the 1948 meeting of the APA. Broken line: How the solid line of this figure would appear if each age-group had contributed papers in proportion to its numerical strength.

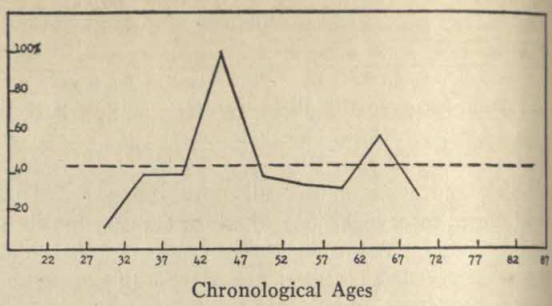


FIG. 2. Solid line: Number of program participations, other than the reading of papers, by members of each age-group, in proportion to membership, at the 1948 meeting of the APA. Broken line: How the solid line of this figure would appear if each age-group had participated in proportion to its numerical strength.

have been expected on the basis of their numerical strength by age-groups 25–29, 30–34, and 35–39. Papers were read *less* often than would have been anticipated by each of the remaining age-groups.

In Fig. 2 the solid line shows by age-group the number of participations other than the reading of papers. If these other participations had occurred in proportion to each age-group's numerical strength, the solid line of Fig. 2 would coincide with the horizontal broken line drawn parallel to the base line of Fig. 2. Figure 2 reveals that these "other" participations occurred *more* frequently than would logically have been anticipated at two age levels only, namely, at ages 42–46 and at ages 57–61.

It has often been remarked that the young men read the papers at the annual APA meetings and that the older men do not. In so far as the present writer is aware, data with reference to this problem have not previously been assembled. Apparently, prestige enables older men to participate generously in ways other than the formal presentation of research findings. If it may be assumed that the reading of papers is a reasonably fair measure of voluntary creative effort, Fig. 1 suggests that most of the age differences in psychology (and possibly in other fields as well) may be due largely, if not solely, to age differences in motivation and effort. Unfortunately, the problem of age differences in creativity is not as simple, nor can it be solved as easily, as the foregoing assumption might lead one to suspect.

HARVEY C. LEHMAN
Ohio University

Across the Secretary's Desk

Psychological Resources in the South

On the Emory University campus and under the auspices of the Southern Regional Education Board, approximately 110 psychologists, psychiatrists, and social workers conferred for three days late in January on the general problem of the South's need for psychological resources and its ability to meet that need. The conference opened with addresses by the Honorable Frank Clement, the 32-year-old governor of Tennessee, and by Dael Wolfle, of the Commission on Human Resources. Then group dynamics set in. Small groups organized themselves first to set and then to wrestle with the agenda for the conference. On the final day, all the small groups became again a large group to take action as a conference and to hear the APA Executive Secretary "summarize." Discussion on the recommendations from small groups became so lively and action so intricate that the "summary" became, happily, a two-minute affair consisting of one small pleasantry and two pious generalizations.

There will be a formal report from the conference, available in some form to interested psychologists. The problems confronted were very similar to those facing psychologists everywhere, e.g., the various facets of training, relations with other professions, participation in community affairs, research facilities, legislation, use of the psychologist's title, and reciprocal relations between the university and the practitioner. The Southern attack on these problems can in some ways be unique. For one thing, there appears to be less interprofessional rivalry in the South than in other parts of the country. For another, there can be, through the experienced offices of the Southern Regional Education Board, cooperative efforts and pooling of resources on the part of a number of universities in various Southern states.

It appeared to many participants that the conference was a productive one. It is a good hypothesis that the objective observer would conclude that Southern psychologists are good psychologists and that psychology in the South is developing healthily under their guidance.

A Committee Looks at the Central Office

From 9 A.M. to 7 P.M. on Saturday, February 7, a special APA committee sat in the Board Room of the headquarters building and studied the operations of the Central Office. They talked with our staff, asked questions, took notes, had ideas, ate a free lunch, and wrote a report to President Shaffer.

We here do not know the content of the report or whether it will be published, but we can react to the idea behind the appointment of such a committee and to the experience of being studied by one.

At the September 1952 meeting of the Board of Directors some specific questions concerning the Central Office were briefly considered and referred to the President for action. During the fall, the President and the Executive Secretary talked and corresponded about these things. It became clear that the specific problems could not really be solved until more is known about the general purpose and functioning of the Central Office.

The idea of a Committee of Assessment gradually evolved. It appeared desirable to have a few APA members, not at present intimately involved in our government, come in and take a close look at what the Central Office does and how it does it. The President appointed Donald Baier, T. G. Andrews, and Denzel Smith to the committee. He asked Donald Baier to serve as chairman and Carroll L. Shartle to sit in as an *ex-officio* member.

All morning the committee interviewed the key people in the office, the people we have recently been referring to as "department heads." There were many questions about ordering supplies, keeping records, editing journals, handling mail, maintaining the building, addressing journals, and editing the *American Psychologist;* about addressograph machines, directories, public relations, membership applications, employment bulletins, flow of visitors, and back issue sales; about relations with the Board of Directors, service to divisions, conduct of business with printers, work for APA committees, contacts with governmental agencies, travel, salary scales for clerks, internal communications, and personnel policies.

During lunch and the first part of the afternoon, the committee studied the activities of the Executive Secretary. They found out how much time he spends on what sort of correspondence, about his working relations with other people in the office, about his staff work for boards and committees,

and about his relations with the "outside world." Both the committee and the Executive Secretary had considerable difficulty in fitting a description to the Secretary's job—as it is or as it should be. But both the committee and the Executive Secretary developed pictures of various possible "executive patterns" and began to think constructively about what sort of pattern might now be best for advancing the purposes of the APA.

Those of us who work here have long had the general conviction and ambition that APA should have—deserves to have—the most effective administrative office in the world. We ought to get a great deal of work done with a great deal of efficiency. We ought to have an office in which one can enjoy working. Our interpersonal relations ought to be on a mature level. We ought to find and maintain a proper balance between structure and flexibility, between informality and organization, between permissiveness and directiveness. We ought to maintain a warm and helpful attitude toward our members and we ought to have a great sensitivity to feedback from a wide variety of psychologists. We ought to be able to do what we conceive to be our jobs in the face of occasional criticism and hostility. And those of us who work at the professional level should come into the office for a relatively few years, do our jobs with all our might and according to our own best lights and then get out, making way for other "amateurs" with other ideas, other personalities, and other professional identifications.

We here do not cultivate the illusion that we have an ideal office. We do think it is a good office but we are sure it can be improved. We think the visit by the committee will result in improvement.

Though no drastic changes in attitude or function have yet occurred, several of us have been doing a new sort of thinking and feeling about our jobs. We feel as if we have gained perspective. It is a very absorbing thing to work for APA. The problems that come at us through the mail and over the phone or in the hands of visiting members are interesting, intricate, demanding, and almost infinitely varied. Normally we sit down at our desks in the morning, bend our heads to today's tasks—tasks that are formulated and scheduled by someone outside the office—and come up for air only at nightfall. The visit of the committee meant that our heads were up for a full day. We began to see our jobs through outsiders' eyes. And we are quite convinced that even brief conversations with concrete psychologists create more perspective than protracted communion with a generalized other. Aside from the several specific ideas we picked up from the committee, this increased perspective should result in an improvement of our general Central Office function, should increase the quality of our service to APA members, and decrease the likelihood that we here will, while neither we nor others are looking, build up a routinized and nonfunctional bureaucracy.

Another general effect of the committee's visit was that we here feel much less lonesome. There are not very many APA members who really know what we do nor many who are very interested. The committee's presence represented for us a regular orgy of shop talk. At least three APA members, not before connected with or exposed to the Central Office, now know what we do and what we think. It feels good. It feels good even if we suspect the committee does not approve of all we do and think.

It seems a very healthy thing that APA members should periodically audit their Central Office. We here are hoping the Association will establish it as a policy that a group of members annually takes a careful look at what does and does not go on in the office. Such an annual assessment will not only bring bright ideas to any current Central Office staff but will represent good insurance that the office will stay functionally resonant to the real interests of those who support it.

Spring Meeting of Board of Directors

The Board of Directors will meet on April 9, 10, 11, and 12 in the headquarters building in Washington. Individual members, committee chairmen, members of Council, or divisional officers who wish to insert items into the Board agenda should communicate before April 1 either to a member of the Board or to the Central Office.

FILLMORE H. SANFORD

Psychological Notes and News

Richard M. Magoun of Florida Southern College died September 3, 1952 at the age of 30.

Kate Franck died in Sydney, Australia in December, 1952. She was 46 years old.

William L. Jenkins was killed in an automobile accident on January 1, 1953 at the age of 34. Dr. Jenkins had just been designated chief clinical psychologist after having served on the staff of the VA Hospital in Minneapolis, Minnesota.

David Katz of Stockholm died of a heart attack on February 2, 1953. He was born October 1, 1884.

At the Catholic University of America James Van der Veldt has been appointed full professor and Katherine Keneally, associate professor. Newly appointed lecturers are Otmar Solnitsky of Georgetown University, Leon Salzman of the Washington School of Psychiatry, Robert Stubblefield of the USPHS, Reginald Lourie of Children's Hospital, and Edmund Fuchs of the Personnel Research Section, AGO.

John W. Thibaut, who has been lecturer and research associate in the department of social relations, Harvard University, has accepted an appointment as associate professor of psychology and associate professor of sociology and anthropology at the University of North Carolina, effective March 1953.

Frank A. Beach has been elected president of Section I of the American Association for the Advancement of Science.

John Paul Nafe has been appointed Distinguished Professor of Psychology at Florida State University for the second semester. He will teach a course in perception and engage in research at the animal laboratory with Howard Baker and Daniel Kenshalo.

Mildred E. Leonard has accepted a position as testing supervisor in the employment department of Macy's Herald Square, New York City. She was previously the administrative assistant in the Psychological Services Center of Syracuse University.

The department of psychology of the Springfield State Hospital in Maryland now consists of the following staff: Michael H. P. Finn, chief psychologist; Donald S. Milman, William H. Guy, and Julian Abrams, staff psychologists; and Saverio Salvati, Bert Friedman, Robert White, and Paul Imre, psychologist interns.

Murray Wexler, who has been senior staff psychologist at Connecticut State Hospital, has joined the faculty of the department of psychiatry of the State of New York School of Medicine in Syracuse.

Grace B. Cox has been appointed chief of psychological services in the Bureau of Mental Health of Pennsylvania's Department of Welfare.

Alfred M. Comens was recently appointed to serve as the Director of Civilian Personnel for the Department of the Army servicing the civilian employees in the Military Districts for the five state area of Minnesota, Iowa, Nebraska, North Dakota, and South Dakota. His offices are in Headquarters Minnesota Military District, Minneapolis, Minnesota.

William S. Verplanck will spend the spring and summer on sabbatical leave from the department of psychology, Harvard University, working in the Zoological Laboratories, Oxford University, with N. Tinbergen. His work is being undertaken with the support of a grant by the American Philosophical Society.

Monroe Stein has been appointed chief psychologist at Western State Hospital, Fort Supply, Oklahoma, effective December 24, 1952.

At Milledgeville State Hospital, Milledgeville, Georgia, John T. Rowell has been appointed chief clinical psychologist. Henry Raymaker, Jr. has joined the staff as junior clinical psychologist, and Mary Fretwell and Henry B. Adams as senior psychologists.

William McGehee, industrial psychologist at the Fieldcrest Mills, Leaksville-Spray, N. C., has been appointed visiting professor in industrial psychology in the department of psychology at North Carolina State College. This is to be a continuous

appointment, and Dr. McGehee will teach an advanced class in industrial psychology each quarter.

Gordon L. Lippitt, assistant director of the National Training Laboratory in Group Development at the National Education Association, has been granted a one-year leave of absence to serve as Education and Training Specialist for the Mutual Security Productivity and Technical Assistance Program in Europe. He will be stationed in Paris. During his absence **Jack Gibb** of the University of Colorado will serve part time in the Washington Office of the National Training Laboratory in Group Development.

Newman L. Hoopingarner, professor of business psychology at New York University, has been elected chairman of the Psychology Section of the New York Academy of Sciences for the 1953 term.

Harold H. Anderson, head of the department of psychology of Michigan State College, has been granted a six-months' sabbatical leave, beginning January 1, 1953. He and his wife, **Gladys L. Anderson**, will spend most of the time in Mexico City continuing their "Intercultural and Developmental Study of Children's Social Perceptions." They will also complete a report of research with adolescent children begun in Germany last summer. Comparisons will be made with data obtained from children in Germany, France, Mexico, and the United States. During his absence **Donald M. Johnson** will serve as acting head of the department. New appointments in the department of psychology at Michigan State College effective September 1952 are: **Harry A. Grace** and **G. Marian Kinget**, assistant professors, and **James J. Gallagher** and **Susanne M. Poch**, instructors.

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DeWitt E. Sell, formerly director of psychological services, Ohio State Reformatory, has been appointed to the newly created position of supervising psychologist, Division of Corrections, Ohio Department of Public Welfare. He will have supervision over all psychological services in Ohio's adult penal institutions. **Sheldon B. Peizer**, who has been on the staff of the Ohio State Reformatory, has been appointed acting director of psychological services for the institution. **S. Lee Whiteman** has been added as a staff psychologist at Ohio State Reformatory. He recently completed his master's work at Kent State University.

Seymour W. Beardsley completed a temporary assignment for the State Department, in Germany, last June, and is now connected with the Washington Seminar of the American Friends Service Committee, as research associate. The office is located at 1333 Sixteenth Street N.W., Washington 6, D. C.

Robert Guion has recently joined the psychology staff at Bowling Green State University. Dr. Guion will be in charge of developing a program leading to the degree of master of arts in industrial psychology. Recent improvements in the physical facilities include a fully equipped projection room, photo laboratory, and the addition of several individual research rooms. A cooperative arrangement has been completed with the Ohio State University whereby up to one year of work beyond the master's level at Bowling Green State University may apply to the PhD program at the Ohio State University, contingent upon the acceptability of the candidate to both institutions.

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The total oral examination included a Professional Field Situation and the following four parts:

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1, 1953, has announced the plans and organization of its program. The Congress will be organized in four sections: Psychology of Industry, with C. B. Frisby, director of the National Institute of Industrial Psychology, London, as chairman; Clinical Psychology, with R. Nyssen, professor of psychiatry at the University of Brussels, as chairman; Psychology of Education, with R. Zazzo, professor of psychology, University of Paris, as chairman; and Professional Instruction, with Mme. C. Bénassy-Chauffard, secretary-general of the National Institute of Professional Instruction, Paris, as chairman. Anyone planning to attend the Congress should write without delay to Pr. R. Bonnardel, 41 rue Gay-Lussac, Paris 5e, so that papers relating to the Congress may be sent to him. The fee is 3,000 French francs for members of the International Association of Psychotechnique and 5,000 French francs for nonmembers. Payment should be made to Dr. M. Coumétou, 101 boulevard Arago, Paris 14e, France.

Psi Chi, national honorary society in psychology, has announced that the 1952 recipient of the Britt Foundation Grant-in-Aid is Percy Black of Fredericton, New Brunswick, for a study of agreement patterns of persons stimulated by different affects. This study grows out of previous work by Mr. Black concerning the relationship of affective states and interpersonal reactions. He is a graduate member of the University of Minnesota chapter of Psi Chi, and is currently working towards his doctorate from Harvard University. The committee which recommended the award was composed of C. E. Hamilton, Alfred University, chairman; Hubert Bonner, Ohio Wesleyan University, and David L. Cole, Occidental College.

Two new chapters of Psi Chi, national honorary society in psychology, were installed during the fall semester. They are the Loyola University (Chicago) chapter, for which Ernest A. Haggard, associate professor at the University of Chicago, was installation officer; and the University of South Carolina chapter, for which M. Kershaw Walsh, chairman of the department of psychology, was installation officer. Frank J. Kobler is faculty adviser of the Loyola University chapter and Erland Nelson is faculty adviser of the University of South Carolina chapter.

Sociological Abstracts is a new cooperative, nonprofit quarterly specializing in abstracting sociological and sociologically oriented periodicals. Vol. 1, No. 1, November 1952 and Vol. 2, No. 2, February 1953 are now available. The periodical contains a classification and index. For copies please write to Leo P. Chall, Editor, 218 East 12th Street, New York 3, N. Y., and enclose 50¢ per issue in coins or stamps of low domination.

The Student Counseling Bureau at the University of Illinois has several thousand **used test booklets** which they would like to sell at a small fraction of their original cost. The booklets are still usable, and are being offered for sale rather than being discarded, with the thought that other psychologists may wish to buy them for greatly reduced prices. The tests include college aptitude and interest, personality, and high school achievement tests. Inquiries should be addressed to James W. Creaser, Student Counseling Bureau, Undergraduate Division, University of Illinois, Navy Pier, Chicago, Illinois.

The department of psychology, Springfield State Hospital announces a **workshop in the TAT** to be conducted by Leopold Bellak, clinical assistant professor of psychiatry, New York Medical College. The dates are March 20 and 21. Some housing will be available. All inquiries concerning registration fee and other information should be directed to Michael H. P. Finn, Chief Psychologist, Springfield State Hospital, Sykesville, Maryland.

Workshops in the Rorschach method of personality diagnosis and other projective techniques will be conducted next summer at Claremont College by Bruno Klopfer and Evelyn Troup. Workshop A will be held August 3 to 15 and will include introductory seminars as well as intermediate and advanced seminars. Workshop B, August 18 to 28, will consist only of intermediate and advanced seminars. To apply for admission write to Dr. Bruno Klopfer, 480 Redwood Drive, Pasadena 2, California, before July 1, 1953.

Corrections and additions to the article on "Training Facilities and Financial Assistance for Graduate Students in Psychology" in the January 1953 American Psychologist

The departments of psychology at the **Ohio State University, University of Washington,** and **Yale University** should have been listed as

approved by the APA's Education and Training Board for doctoral training in clinical psychology.

Bowling Green State University offers general preparation for the PhD degree.

Brandeis University stipends. Brandeis University, Waltham 54, Massachusetts. Apply for admission to Dr. Abraham H. Maslow, Chairman of the Committee on Psychology, Graduate School of Arts and Sciences. Tuition $600. GRE and MAT required. A number of graduate scholarships, graduate fellowships and teaching assistantships will be awarded for the academic year 1953–1954. Graduate scholarships—full remission of tuition and fees plus stipends up to $600. Graduate fellowships and teaching assistantships—full remission of tuition and fees plus stipends up to $1,400. These awards will be made on a competitive basis to men and women candidates of outstanding academic potential. Under exceptional circumstances larger sums may be awarded. Enrollment in the Graduate School will be limited to assure students of the close personal guidance and supervision necessary in joint scholarship.

Cornell University, School of Education. One vacancy: stipend $1,800, student must pay his own tuition ($300). Responsibilities are in testing and research work in the University Testing and Service Bureau. One vacancy: stipend $1,600, tuition exempt. Responsibilities are in the teaching of general psychology. Two vacancies: stipend, $900, tuition exempt. Stipend $1,800, student must pay his own tuition ($300). Responsibilities are in the University Reading Laboratory working with students in the reading improvement course. Apply by April 1 to Dr. M. D. Glock, 311 Stone Hall, Cornell University.

Fordham University. The School of Educational Psychology, Measurements and Guidance, offers graduate work for the doctor's and master's degrees in educational psychology, counseling, and tests and measurements. From 1949 to 1952 this division granted 19 doctoral degrees and 105 master's degrees. Assistantships and scholarships are available each year. Write to Dr. William A. Kelly, Chairman, Division of Educational Psychology, Measurements and Guidance, School of Education, Fordham University, New York 7, N. Y.

University of Manitoba has training in educational psychology under the Faculty of Education.

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Wayne University. There are three departments at Wayne University offering graduate work in psychology: the College of Liberal Arts, School of Business Administration, and College of Education. The information in the article was submitted by the department in the College of Liberal Arts. The following information has been submitted by the department in the College of Education. The administrative officer is Dr. Gertha Williams. For the academic years 1949–52, 156 master's degrees were awarded. Master's degree training is offered in the fields of child and developmental, educational, and clinical psychology. Tuition is $74 a semester; nonresident tuition is $100 a semester. The Miller Analogies Test is required for admission to the clinical program. Three teaching assistantships are available with stipends of $1,075; 20 hours' work per week; new students eligible. Apply to Dr. Gertha Williams, College of Education, Wayne University, Detroit 1, Michigan.

1953 Annual Meeting

The 1953 APA meeting was scheduled to be held at Michigan State College. Because of recent turns in the negotiations with Michigan State, the Council of Representatives recently voted to hold the meeting elsewhere if suitable arrangements could be made. The Council voted a preference for Cleveland. Adequate facilities are available there. The 1953 meetings will be held, then, in Cleveland on September 4–9. The May issue of the *American Psychologist* will carry information about local arrangements.

Convention Calendar

American Psychological Association: September 4–9, 1953; Cleveland, Ohio
For information write to:
Dr. Fillmore H. Sanford
1333 Sixteenth Street N. W.
Washington 6, D. C.

American Personnel and Guidance Association: March 29–April 2, 1953; Chicago, Illinois
For information write to:
Executive Secretary
American Personnel and Guidance Association
1534 "O" Street N. W.
Washington 5, D. C.

Southern Society for Philosophy and Psychology: April 3–4, 1953; Austin, Texas
For information write to:
Dr. Oliver L. Lacey
Department of Psychology
University of Alabama
University, Alabama

Rocky Mountain Branch of APA: April 3–4, 1953; Albuquerque, New Mexico
For information write to:
Dr. Lawrence S. Rogers
1046 Madison St.
Denver, Colorado

National Association of Student Personnel Administrators: April 6–9, 1953; East Lansing, Michigan
For information write to:
Dean Tom King
Michigan State College
East Lansing, Michigan

International Council for Exceptional Children: April 8–11, 1953; Boston, Massachusetts
For information write to:
Harley Z. Wooden, Secretary
1201 Sixteenth Street N. W.
Washington 6, D. C.

Illinois Psychological Association: April 11, 1953; Chicago, Illinois
For information write to:
Professor George S. Speer
Institute for Psychological Services
3329 South Federal Street
Chicago 16, Illinois

American Psychosomatic Society: April 18–19, 1953; Atlantic City, New Jersey
For information write to:
Miss Joan K. Erpf
American Psychosomatic Society
551 Madison Avenue
New York 22, New York

Florida Psychological Association: April 23–25, 1953; Miami, Florida
For information write to:
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Department of Psychology
Florida State University
Tallahassee, Florida

Eastern Psychological Association: April 24–25, 1953; Boston, Massachusetts
For information write to:
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University of Delaware
Newark, Delaware

West Virginia Psychological Association: April 24–25, 1953; Charleston, W. Va.
For information write to:
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Morris Harvey College
Charleston, West Virginia

Midwestern Psychological Association: May 1–2, 1953; Chicago, Illinois
For information write to:
Dr. Lee J. Cronbach
Bureau of Research and Service
University of Illinois
1007½ South Wright Street
Champaign, Illinois

American Society of Group Psychotherapy and Psychodrama: May 4–5, 1953; Los Angeles, California
For information write to:
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Laboratory of Social Relations
Harvard University
Cambridge 38, Massachusetts

American Psychiatric Association: May 4–9, 1953; Los Angeles, California
For information write to:
Dr. Cullen Ward Irish
1930 Wiltshire Boulevard
Los Angeles 5, California

Acoustical Society of America: May 7–9, 1953; Philadelphia, Pennsylvania
For information write to:
Dr. Harry F. Olson
RCA Laboratories
Princeton, New Jersey

California State Psychological Association: May 9, 1953; Los Angeles, California
For information write to:
Dr. James F. T. Bugental
Department of Psychology
University of California
Los Angeles 24, California

Pennsylvania Psychological Association: May 9, 1953; Harrisburg, Pennsylvania
For information write to:
Dr. William U. Snyder
Department of Psychology
Pennsylvania State College
State College, Pennsylvania

American Association on Mental Deficiency: May 12–16, 1953; Los Angeles, California
For information write to:
Dr. Neil A. Dayton
P. O. Box 96
Willimantic, Connecticut

Canadian Psychological Association: May 28–30, 1953; Kingston, Ontario, Canada
For information write to:
Dr. G. A. Ferguson, Secretary-Treasurer
3544 Peel Street
Montreal, P. Q., Canada

American Psychopathological Association: June 5–6, 1953; New York City
For information write to:
Dr. Donald M. Hamilton
121 Westchester Avenue
White Plains, New York

Western Psychological Association: June 18–20, 1953; Seattle, Washington
For information write to:
Dr. Richard Kilby
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San Jose State College
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The Professional Journal of the American Psychological Association, Inc.

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CHANGE IN PLANS FOR 1953 ANNUAL MEETING

The 1953 APA meetings will be held September 4–9 in Cleveland, Ohio. The meetings were originally scheduled to occur on these dates at Michigan State College. Recent developments, however, led the Council of Representatives to vote a change in plans.

As the time approached for the making of detailed plans for the 1953 meetings it became apparent that it would be difficult to fit so large a convention as ours into the currently available facilities of Michigan State. It also became apparent that the Department of Continuing Education at Michigan State would have to charge a total of from $10,000 to $14,000, in addition to charges for rooms and meals, for handling the convention. This sum was to be collected by either charging each member a registration fee or by collecting the total amount from the APA. The magnitude of this fee, the possible inadequacy of facilities for eating and sleeping, and the probable difficulties involved in helping 4,000 psychologists adjust to an institutional atmosphere tailored primarily for undergraduate habitation, added up to serious doubts about the desirability of going to MSC even in spite of economic and other advantages.

The facts of the situation, and the facts about other available facilities, were presented by mail late in February to the Council of Representatives. The Council voted 59 to 5 against Michigan State and stated a decided preference for Cleveland over other possible meeting places. The change to Cleveland apparently was not conducive to great sadness among MSC authorities, though the members of the MSC psychology department are disappointed that they will not be our hosts.

Headquarters in Cleveland will be at the Hotel Cleveland. Most of the meetings will occur there and in the Cleveland College Building of Western Reserve University, just across the square. A few meetings will occur at other hotels. An adequate number of sleeping rooms, including many at the currently modest rate of $3.00, will be available in downtown hotels. Western Reserve University will be the host institution and Erwin K. Taylor will be convention manager. Detailed information on Local Arrangements will be published in the May *American Psychologist.*

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IN discussing fact and fancy in personality research, it is not my intention to distinguish what we have established as fact from what we might like to fancy we have achieved. Nor is it the difference between our accomplishments and our autisms in personality research. The magnitude of our discrepancy score is too obvious to need pointing out. Rather, my concern is to inquire into the roles of fact and fancy in scientific research in general and in personality research in particular. Please note that the phrase in the title is not "Fact *versus* Fancy" but "Fact *and* Fancy," for my thesis is not that we accept the one and reject the other, but that we give thought as to how best to use both for the maximal benefit of personality research. Other phrases, "Fact and Speculation" or "Fact and Theory," would have served equally well, perhaps even better. Certainly we fancy and speculate and theorize, but at what level and at what distance from facts as such?

A quotation serves well as a beginning.

> Enthusiasm for Theory? Yes, Psychology can use much of it. However, we will produce but an empty formalism, if we forget that mathematization and formalization should be done only to the degree that the maturity of the material under investigation permits at a given time (13, p. 10).

There is greater need today to heed these words of caution and warning than in 1940 when they were first written by Kurt Lewin. Psychologists were then still rather restrained in their theorizing. But during the past decade, and especially in the area of personality, theorizing and model building have been pushed, if not to a point of no return, at least to a point of diminishing return.

My questioning the value of model building—at least the extent of its current development and many of the forms which it takes—is not to be construed as a defense of raw empiricism in science. On the contrary, what characterizes any science as well as distinguishes it from other sciences is not the domain of phenomena which it studies but the conceptual language which it employs.

Science has been defined as "the recording, augmentation, and rational correlation of those elements of our experience which are actually or potentially common to all normal people" (3, p. 14).

Concerning the first of these steps, recording, little need be said. It constitutes the starting point of science, involving the activities of observing and describing phenomena, and recording in systematic fashion the observations and descriptions which have been made. This first step, when well executed, leads to the second—an augmentation of knowledge—for observations placed in orderly sequence or properly grouped, through the relationships thus established, acquire more meaning than they possess as isolated elements of experience.

Concerning the third step, the rational correlation of phenomena, more needs to be said. Such rational correlation of the elements of the scientist's experience constitutes what the layman thinks of as explanation. But, as Dingle (3) points out, the term "explanation" is an unfortunate one because of its false connotation of finality of knowledge. In science no knowledge is final, nor does "explaining" a datum remove all mystery from it. All that is involved in "explanation" is the establishment of a relation between the phenomenon which is "explained" and other phenomena about which something, but not everything, is known.

In discussing this point, Dingle has called to our attention the fact that ". . . when Franklin 'explained' lightning he simply showed that it was connected with electrical experiments in the laboratory. A relation was thus established between those experiments and the lightning flash, so that knowledge of one phenomenon was available for interpreting the other: the phenomena were *co-related* with one another. This correlation contained all the explanation that was given. What-

[1] Adapted from the address of the President of the Division of Personality and Social Psychology at the meeting of the American Psychological Association in Washington, D. C., September 2, 1952.

ever was mysterious about the electric spark remained mysterious about the lightning flash" (3, p. 16).

In correlating rationally the elements of his experience, the scientist ceases to be a raw empiricist, if ever he was one; for, in concentrating upon certain elements of his experience as objects of his scientific study to the exclusion of others, he is already guided by theory of a sort even if it be nothing more than an expression of interest which he puts to nature in the form of a question.

Though he starts with observed facts, and, in the end, always comes back to them as the bedrock of science, the scientist in developing his science moves away from facts. He does so in two ways—in developing abstractions and in framing hypotheses.

In abstracting, the scientist *subtracts* something from his immediate experiences, focusing his attention upon a single quality or characteristic of many similar, yet individually differing, observations. Having abstracted the common quality and given it a name, the scientist has framed one of the simpler, but far from unimportant, concepts of his science. Since these concepts, which are formed by the process of abstracting a single quality common to many phenomena, stand for aspects of phenomena which can be immediately experienced by way of the sense modalities, they may be designated *phenomenal* concepts.

In developing hypotheses, the scientist *adds* something to his experience of phenomena. Hypotheses, like abstractions, are created in order to relate in a rational fashion apparently diverse phenomena, not, however, as in forming abstractions, by detecting a common quality in the phenomena themselves, but by inventing a fictitious entity, process, or event in terms of which the phenomena can be meaningfully related. Unlike phenomenal concepts, hypothetical constructs are in the moment of their creation, figments of the scientist's imagination, and may, for this reason, be referred to as *fictional* concepts.

Unless I misread the writings of others, the distinction which I have sketched between phenomenal concepts and fictional concepts is the same as that made by Reichenbach (18) between *abstracta* and *illata*, and, at least in part, the distinction which MacCorquodale and Meehl (14) have proposed between *intervening variables* and *hypothetical constructs*.

I see no difference between what I have called phenomenal concepts and what MacCorquodale and Meehl have urged we accept as the meaning of intervening variables. They suggest, however, a more restricted meaning for hypothetical construct than seems to me either fruitful or necessary, and for that reason I should like to urge a more liberal interpretation of the meaning of fictional concepts or hypothetical constructs.

As I read the history of science, two kinds of hypotheses have been employed:

1. Those which hypothesize the existence of some entity, process, or event which, though not now observed or observable, is assumed to be of such a nature as to be potentially verifiable by direct observation.

2. Those which hypothesize the existence of some entity, process, or event which is not now observed or observable and is of such an assumed nature as to be beyond verification by direct observation.

The first type of hypothesis would be illustrated by the assumption of a particular kind of brain pathology to explain, or, as I would prefer to say, to correlate rationally, certain abnormalities of behavior. In the moment of hypothesizing the particular neuropathology, it is not demonstrated, though subsequent search may reveal its presence. When, in this manner, an hypothesized entity, process, or event is observed, and its relationship to the to-be-explained phenomenon is established, the hypothesis is replaced by a scientific law.

The second type of hypothesis which assumes the *existence* of some entity, process, or event beyond verification by a direct observation of them is composed of two subclasses. The first of these are hypotheses which postulate happenings in the past, e.g., an hypothesis that would explain the solar system. The events thus postulated cannot be observed because the only time when they could have been observed has passed. The same difficulty exists, of course, for many genetic hypotheses. But if the hypothesized event correlates observations as well as it would were it a phenomenal reality, that is all that the scientist asks. The second subclass of fictional concepts consists of those which postulate existences or processes whose unobservability is part of their essential nature. Concepts of this type abound in modern atomic theory: electron, neutron, posi-

tron, meson; in biology, the gene; in psychoanalysis, libido and superego.

I would argue that fictional concepts need possess no properties and are subject to no laws other than those which are necessary and sufficient to enable them to correlate observations rationally. We are at liberty to shape such hypotheses as we please—provided they "explain" phenomena. In shaping them we are free from the trammels of phenomenal reality. We may even endow them with qualities contradicting our own experience. Such hypotheses, as Dingle has expressed it, "are employed for rational correlation and are not admissable to experience: they must have rational properties, but not necessarily sensible ones" (3, p. 47).

With much of this, I take it, MacCorquodale and Meehl would agree. At least I interpret as agreement their statement that the formulation of hypothetical constructs "involves words not wholly reducible to the words in the empirical laws; the validity of the empirical laws is not a sufficient condition for the truth of the concept, inasmuch as it contains surplus meaning; and the quantitative form of the concept is not obtainable simply by grouping empirical terms and functions" (14, p. 107). But here the agreement ends.

A special requirement to be met by all hypothetical constructs is proposed by MacCorquodale and Meehl that "their actual existence should be compatible with general knowledge and particularly with whatever relevant knowledge exists at the next lower level in the explanatory hierarchy" (14, p. 107). Now this is not the extreme form of scientific reductionism, such as Pratt (16) espouses, which insists that the only explanatory concepts for psychology are those of the more basic biological sciences of physiology and neurology. But it is the next thing to it, in so far as it demands, if not identity, at least congruence between the hypothetical concepts of psychology and the "facts" of physiology and neurology.

Ideally one would wish for such congruence of the sciences, and we may expect gradually to approach it. But to reject, as MacCorquodale and Meehl's position would force us to, any hypothetical construct in psychology because it would appear that no neural process is likely to have the *combination* of formal properties required, is to deny us the use of concepts which may have great value in ordering the facts of personality. And who can say with certainty that subsequent development of neurology will not eventually demonstrate neural processes which actually do possess the combination of formal properties required by some of our current concepts of personality?

MacCorquodale and Meehl remind us that the "pyramid of the sciences" will presumably catch up with us someday and warn that we should start getting our concepts in order for that time, requiring of them that they be something more than metaphors—that they be "true" in the sense of having "some probability of being in correspondence with the actual events underlying the behavior phenomena" (14, p. 105).

Krech (10, 11, 12) goes even further. For him it is not enough that hypothetical constructs be congruent with relevant neurological knowledge. He insists that they be assumed neurological events and processes. But he emphasizes, as MacCorquodale and Meehl do not, the inadequacy of present neurological knowledge and concepts. For this reason he creates his own brand of neurology with the central concept of "dynamic systems"; but the properties of these dynamic systems derive more directly from psychological than from neurological data. Now, I have no quarrel with Krech's neuromythology, as one critic has called it, because it is not faithful to known neurological facts. I would defend to the limit his shaping of his concepts in any language that he chooses, provided, however, that they suffice to correlate rationally the phenomena of behavior. My criticism of Krech's dynamic systems is based on other grounds: (*a*) that they do not serve adequately to explain or to correlate rationally the particular aspects of behavior which are central in the field of personality, and (*b*) that dynamic systems, for which Krech claims a greater reality because of their asserted neurological character, are indeed no more neurological than, for example, libido, and no less psychological either.

Certainly there can be no quarrel with the requirement that the set of symbols (whether words or numbers) which is developed to explain phenomena must employ a language different from the language in which the phenomena are described. The language of constructs is clearly different from the language of data. But the conclusion, drawn by many psychologists, that the explanatory concepts in psychology must be those of some more

basic science, e.g., physiology or neurology, is a gratuitous one.

Having argued, then, for the role of constructs, even the most fictional ones, in psychology; and having asserted that they need not be cast in the language of physiology or neurology—though they may be—the sole requirement being that they serve to correlate rationally the behavioral phenomena, I shall now express my opinion that in personality research our theorizing and building of models have outrun activities more intimately concerned with observation and data collecting. Our greatest need for the more adequate study of personality is systematic observation and systematization of the data we collect, and this, I submit, is something other than theorizing. When that need has been met, our task will not be finished. Rather, then, our need will be for an over-all and integrating theory.

In other areas of psychology the pressing need may even now be for integrating models. Perhaps the "facts" of learning are now sufficiently well established to require such a unifying theory, though even that appears questionable to me.

Whether personality theory will, in the long run, be something different from psychological theory is a problem which cannot be answered now. Of one thing I am certain—that the theory of such processes as perception or learning cannot take over for personality theory though it can contribute to it. Much recent work which has been called a perceptual approach to personality has been so centered upon perceptual processes as to lose practically all sight of personality. Perhaps eventually the distinctions between "learning theory" and "perception theory" and "personality theory," to mention but three, will disappear and in their place we shall have a single and integrated psychological theory. But whether such a goal will be reached will depend, in part, upon learning psychologists, and perception psychologists, and personality psychologists agreeing upon a single and common set of variables significant for and relevant to all of their interests. Certainly they are still far from such agreement and consequently most present-day attempts to build a common theory are rather unrealistic. Perhaps some of the present impatience to force a single theoretical model for all of psychology might be lessened if we could remember that the progress of physics was neither slight nor unimportant during the long period in which there were only limited and separate theories for the fields of heat, electricity, mechanics, optics, and hydrostatics.

The preoccupation in recent years with personality theory and the mounting Babel of theoretical models should alert us to a need for more facts and for the establishment of more low-order correlations of clearly defined variables. The more we succeed in establishing intercorrelations within sets of experimental variables, in other words, the greater our success in discovering empirical laws, the less the need for theory. Skinner's (19) description of much theory as a refuge from data misplaces the emphasis. It would be fairer to say that theory is an artifact of ignorance. Spence has argued that "If under experimental condition, X, the response measure R is always the same (within the error of measurement) then we have no need of theory" (20, p. 51). Since such invariant relationships are so rarely observed in the functioning of personality, our need for theory would appear to be indeed great. And contrast the situation in the field of audition, as described by Stevens and Davis, with that which obtains in the field of personality. They write, "Theories flourish on a certain sparseness of facts and wither in the face of abundance. When all the relations are known, alternative theories are no longer possible, and, if a present inventory of the facts of audition leaves little room for theories of hearing—in the 19th century meaning of that phrase—the situation must be accounted a sign of progress" (21, p. x).

It is, then, not a question of trying to get along without theory in our pursuit of understanding of personality. Our very ignorance cries out for theory. The question is, "What kind of theory?" And I would now answer, "Low-order theory; theory which is built at first in large measure out of concepts that are close to data."

Marx (15) has argued that in the early phases of scientific endeavor there is especial need for hypothetical constructs to fill in the gaps in what is known and to suggest possible rational correlations of the observations which are made. Hypothetical constructs with surplus meaning, that is, existential meaning, can be tolerated early in the history of a science, but, according to this view, must eventually be replaced by constructs more closely and necessarily tied to the data, in other words, by intervening variables which mean nothing more than certain stated empirical operations.

Certainly the transformation of hypothetical constructs into intervening variables is one mark of a developing science, but it is inconceivable that any science will ever reach an end state in which intervening variables will have entirely replaced hypothetical constructs. There will always, in every science, be need for ever more general laws to subsume the ever increasing body of lower-order laws. The history of science is a succession of ever closer approximations to a complete rational correlation of all the elements of experience, but, so long as such a complete rational correlation is not achieved, there will continue to be need of ever better hypothetical constructs.

Marx (15) has stressed the movement from hypothetical constructs to intervening variables. I should like to emphasize that the scientist, entering a new field of endeavor (and the psychology of personality is still a very young field) need not jump immediately from his common-sense observations to hypothetical constructs and then work back from them to intervening variables. This may be the path of the occasional genius in science. But there is a slower, and not unrewarding, path from observation to intervening variable to hypothetical construct, along which a great band of scientists can work productively. And there is one very great advantage in proceeding in this manner. The intervening variables, established upon the basis of observation of what goes with what, and, being in themselves only statements of empirical operations, may point the way more clearly to the properties of the hypothetical constructs most needed at any moment in the history of a science than can imagination and intuition working without the knowledge which careful observations of data supply.

To take the work of Freud as illustrative of my thesis is not to imply that Freud met all the criteria of the complete scientist or that psychoanalysis is a well-established or highly formalized science. But whatever our opinion of psychoanalysis may be, the work of Freud has made more difference for the study of personality than has the work of any other single investigator, and a review of the course of his labors is instructive.

Freud's work as a student of personality falls rather naturally into three periods in each of which there was, of course, a blending of fact and fancy, but in different proportions.

The first period extends from the early 1890's, when Freud began his collaboration with Breuer, until 1910. During this period Freud was the observer, noting forms of behavior and relationships among them which the cultural taboos of his time had kept more conventional and less intuitive observers from noting. This was, of course, no period of mere data collecting. Freud's insights and intuitions led him to look for relationships and derivative meanings which earlier, largely neurological, theorizing had not even suggested. But this was, for Freud, a period in which he took as his observational data what patients said and did and remained close to these facts in his attempts at theory to explain them.

The second period, the ten years between 1910 and 1920, may be described as the period of Freud's most brilliant theorizing. Look at the *Collected Papers;* this was the decade of Freud's theoretical classics: his papers on repression, narcissism, etc. If Freud was wandering farther from his facts in this period, he still never lost sight of them, and his theories were, considering the complexity of the data he had unearthed, still rather parsimonious.

The last period of Freud's work, from 1920 until his death in 1939, was a time of ever freer speculation which Freud himself labeled as a concern with metapsychology. This was the period in which the notions of a life and death instinct were adumbrated.

There were, of course, deviations in Freud's work from the line of development which I have sketched. But the deviations which did occur serve only to prove my point that what is lasting in his work are the facts which he was the first to note and the more parsimonious intervening variables which he developed in his attempts to correlate rationally the irrational behavior which he observed. The fictional concepts of *Totem and Taboo,* written in the first period, have no place in current personality theory; but Freud's attempts, in his last period, at a typology of character still merit our attention.

Those who have been wont to criticize Freud for his speculative tendencies should remind themselves of what Freud had to say about the dangers as well as the merits of speculation and the basis of science.

He wrote that "[There are certain ideas which cannot be worked out] except by combining facts with pure imagination many times in succession, and thereby departing far from observation. We

know that the final result becomes the more untrustworthy the oftener one does this in the course of building up a theory, but the precise degree of uncertainty is not ascertainable. One may thereby have made a brilliant discovery, or one may have gone ignominiously astray" (4, p. 77). ". . . these ideas are not the basis of the science upon which everything rests; that, on the contrary, is observation alone. They are not the foundation stone, but the coping of the whole structure, and they can be replaced and discarded without damaging it" (5, p. 34).

It may be, as Freud has assured his readers, that his *most* speculative ideas may be discarded without damaging the basic structure of psychoanalysis, but one may well wonder whether the progress of psychoanalysis as science would not have been speedier without them.

A great deal of the work in clinical psychology today has been criticized as of little scientific value because it has not been more explicitly guided by theory. No doubt there is much that clinical psychologists do with their patients which contributes little to an advancement of knowledge concerning the development, structure, and function of personality. But unlike many theoreticians who look upon such work as even detrimental to the building of a science of personality, I see it as the slow gathering of a body of data which is vitally needed at the present stage of personality research. It is at least a question for debate whether the amassing of many facts about personality relatively unguided and uninspired by brain theory is today more detrimental to the development of an understanding of personality than the building of theoretical models which pay little or no attention to fairly large bodies of data already relatively well established by repeated observation.

Theoreticians will doubtless question not only my conclusion that we should pay more attention to determining facts but also my charge that this aspect of the total process of the scientific investigation of personality is being neglected today. The current devaluation in personality research of what I have called the first phases of science takes many forms.

In the 1930's it was considered appropriate to make explorations in personality, but today one is made to feel pedestrian unless in his investigations he is testing so-called deductions from a theoretical model.

In 25 years of teaching, I have served on many faculty committees to advise graduate students on their research plans for the doctorate. In recent years I have been struck by the increasing insistence that a research plan, to be approved, must be designed to test predictions made from a clearly formulated set of hypotheses; and this requirement is made of the student of personality no less than of the student of learning or of the sensory processes. It apparently makes no difference that in these meetings, members of the faculty propose contradictory hypotheses and make conflicting predictions; the student is, nevertheless, held to the requirement of a theoretical justification of his projected research. In some fields and in respect of some problems, even in personality, such a demand is legitimate, but in other areas we would be more honest with ourselves and more faithful to the true meaning of theory if we admitted that what we proposed was an exploration.

Another indication of our underestimation of the significance of the fact-finding process is the common tendency to treat the laborious task of collecting data as a chore to be given, whenever possible, to someone else. The notion that anyone can collect data, but that only a few can think creatively about them, and that the two processes can always and everywhere be carried out entirely apart from one another is widespread. Collecting data is regarded as a job for a technician, for the graduate research assistant, but not for the professor or high-powered researcher.

In the more venerable fields of science such a division of labor can often be made advantageously, but not so easily or so often in new fields and especially not in fields where the data are the interactions of individuals in complex situations and where the collector of data must, of necessity, be a participant observer, not only listening with a third ear but seeing with a third eye. The neglect would not be so serious if we would ourselves make the first observations or pretest the instruments of our invention before turning these tasks over to research assistants, but frequently even these preliminary interactions with our subjects are omitted.

Such disregard of the sources of our data is difficult to interpret except as the consequence of the social hierarchy in our science which grants greater prestige to activities the farther removed they are

from data. If, as we know, even the performance of rats in mazes is influenced by the way in which they are handled, on what grounds do we believe that human subjects, infinitely more sensitive and subtle, will be any less affected in their behavior by the way in which they are treated in interview, test, or experimental situation?

Another sign of our failure to pay proper respect to our data is our frequent unwillingness to spend sufficient time examining them closely and studying concretely the relationships which obtain among them. One example will serve for the many forms this neglect may and does take. The requirement of determining, prior to computing correlations, whether or not data are related in a linear or curvilinear fashion is not an abstruse one. It is recognized by every graduate student in psychology. But to make the test takes time, and, if the number of variables is large, the temptation is great to assume linearity and to compute a matrix of *r*'s. So great is the impatience to move away from the concreteness of data to the determination, at a more abstract level, of relationships among them, that the meaningful relationships and the degree to which they exist may never be found. That many forms of behavior are related in a curvilinear rather than in a linear fashion is an observation that has been made by both clinicians and social psychologists. But it is one thing to make such qualitative observations and another thing to establish them in precise and quantitative form.

One may think of making scatter plots as playing with data, but it is a form of play which can pay off quite handsomely. The close inspection of the relationship between two sets of data is the only way to insure their proper classification without which they cannot contribute to an augmentation of our knowledge. To omit this step may mean the difference between obtaining an insignificant *r* or a significant eta.

Finally, I wish to question the assumption widely made in personality research and in psychology in general that facts "established" in the test of a theory necessarily deserve more confidence than do facts "established" in more frankly empirical studies.

It is, of course, well known that, if a large number of tests be given to a group of subjects and the scores on each test correlated with those on every other test, by chance alone a certain number of the correlations in the matrix would be significant. Not only the psychologist with a penchant for theory but the statistician, too, will warn that, in the absence of theory as to what should on rational grounds go with what, little reliance can be placed in correlations thus obtained.

It is common knowledge to test constructors and it should be no secret from any personality researcher that, if tests yielding statistically significant correlations with the criteria are administered a second time to another sample drawn from the original test population, a certain number of the correlations will almost certainly show considerable shrinkage or even wash out entirely in this first cross validation. On second and third cross validations still other correlations may fail to hold up.

But, let it be noted, if the investigator has had some good hunches guiding him in the construction and selection of his tests—Guilford's (5, 6, 7) work on creativity comes to mind—even though these hunches are not of such an order as to justify their being called theories, and, if the criterion measures have been reasonably adequate and stable, I assert that the empirical investigator's "findings," the correlations which continue to hold up in repeated cross validations, may deserve more confidence than the "findings" reported in researches much more elegant in experimental design and "established" in the test of theoretical predictions.

The notion that tests of significance of a difference need not be as stringent for data collected in an experimental checking of an hypothesis as for data collected in more empirical studies appears questionable unless at the same time certain stringent requirements with respect to the theory that is tested are also met. In psychology, and especially in the field of personality, much passes for theory that is only a hunch, or guess. To test such pseudo-theories or pseudo-models with, as is often the case, a very small number of subjects, and to test them only once, as is again so often done, and to apply to data thus obtained a less stringent test of significance because presumably a theory or logical derivation has been tested, is indeed capitalizing on chance.

Because these dangers are recognized, scientists have enunciated a principle of repetition of experimentation. But for the most part we give lip service only to this principle. We proclaim that science is the most democratic of procedures; only

that which can be tested and reproduced by all investigators is to be accepted as fact. But how often do experimental psychologists repeat the experiments of their colleagues? The infrequency with which they do so bespeaks, in a curious way, an underestimation of the importance of factual findings.

Too often the insistence that an experiment be repeated is heard only when deep-seated beliefs, often having nothing to do with science, are threatened. One thinks of Rhine's experiments on ESP (17). But even here the issue is prejudged by most psychologists; they demand that the experiments be repeated, but by someone other than themselves. They "know"—let it be noted, on theoretical grounds—that the results cannot be valid, so why waste time in attempting to prove them false. In passing, it may be observed that the attitude of many experimental psychologists is only slightly less prejudiced with respect to the reported findings of the psychoanalysts.

Once in a while an experiment, whose hypotheses are sufficiently within the stream of current psychological theorizing to be accepted, meets with more interest than resistance and is repeated. One thinks of Zeigarnik's (22) investigation of the recall of completed and unfinished tasks, and of the Bruner-Goodman (1) studies of the influence of need upon perception. In these cases, as in many others, where conscientious efforts have been made to repeat original investigations, we know how difficult it has been to confirm the reported findings. Whatever facts or laws seemed to be established in the original studies have proved to be, if not untenable, at least in need of radical qualification. But in such controversial areas of research and theory, we at least have some idea of what is not known, and consequently continuing research can give promise of some eventual ordering and establishing of fact.

It is, however, the vast silent areas of psychological research and theory which should cause us disquiet, for here the noncontroversial single-occasion findings are accepted without question or check.

Psychologists in the field of testing cannot lay claim to a long virtuous past in respect of confirming their findings. Perhaps it was because they were the worst offenders that they were the first to reform. In any case, in recent years, and especially since Cureton's paper on "Validity, Reliability and Baloney" (2), the necessity of cross validation has been clearly recognized. Cross validation prior to publication of findings is fortunately well on the way to becoming established practice in this field. Until repetition of experimental studies also becomes standard practice, there is no reason to place greater confidence in their reported "findings" than in the reported "facts" of more empirical studies.

In summary, I should like to emphasize again that my criticism is not of theory as such, but of the impatience to develop elaborate theoretical models of personality before laying the necessary ground work of observations and abstractions from them. I am concerned lest we move too rapidly in personality research from the practical, empirical, and intuitive, to the abstract, rigorous, and formal, with the risk, to which Lewin (13) called our attention, of building logical superhighways which turn out to be dead ends leading nowhere.

We need hunches and hypotheses concerning the significant phenomenal variables of personality and inferences from behavior to the underlying dynamics of the person. I propose that it is better in personality research today to settle for something less than full-blown theoretical models, namely hunches and working hypotheses. I would urge that we set lower goals and expend as much energy in pursuing them as is now spent, in my opinion, prematurely and fruitlessly in the pursuit of goals too fanciful for the present state of personality research.

But lest I am thought to be championing a raw empiricism I should like to remind you that *ledge*, the second element in the word *knowledge* means sport (9). Knowledge is the result of playing with what we know, that is, with our facts. A knowledgeable person in science is not, as we are often wont to think, merely one who has an accumulation of facts, but rather one who has the capacity to have sport with what he knows, giving creative rein to his fancy in changing his world of phenomenal appearances into a world of scientific constructs.

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TEACHING METHODS RESEARCH

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THE problem of instructor- versus student-centered teaching is not a new one, although each time the controversy has appeared in print it has taken a different name! The disagreement has been further confounded because sometimes it has concerned itself with matters of content, and sometimes with matters of method. During the middle 20's, largely under Dewey's influence (6), the problem was investigated by those who were concerned with what came to be called "progressive education." Since this movement arose largely as a revolt, it took some time for its principles to be succinctly stated. In time, however, it became clear that progressive education was concerned primarily with the way individuals met and solved problems, with the habits they developed in adjusting to their environment, and with the implications of these for democratic living.

This controversy ramified into the realm of college teaching as the "lecture method" versus the "discussion method." The discussion method was felt to be more appropriate for a democratic society, for this method was supposed to encourage the reflective deliberation of problems. Furthermore, it was held that experiences in discussion were experiences in reflective thinking that could be observed and appraised in such a way as to stimulate growth. Therefore, in an era when educators held that it was more important to teach students *how* to think than *what* to think, the discussion method was thought to be superior.

Some research was conducted on the relative merits of these two teaching methods, and at least two reviews of the literature (5, 11) indicated that the lecture method was superior for purposes of immediate recall and more efficacious with superior students, while the discussion method was better for delayed recall, and for the less able students. In general, however, differences in definitions of "the lecture method" and "the discussion method," and differences in procedures make the results of the various studies difficult to compare.

Recently the problem has been re-opened under the title of "instructor-centered" versus "student-centered" teaching (7), and much-needed conceptual and methodological improvements have been made in the research designs. The basic problem has maintained its continuity, however, for the instructor method is still more interested in course-related material, while the student-centered approach is primarily concerned with individual development and emotional needs. The reformulation of the problem, which has been largely influenced by Lewin's concept of the "interdependence" of needs (8) and by Rogerian nondirective techniques (13), has favored the student-centered method. This has been especially important, since the discussion method has never been clearly defined, existing mostly by contrast with its rival, the lecture method.[1] Essentially this restatement in Lewinian and Rogerian terms has served to integrate the teaching problem with the fields of group dynamics and psychotherapy, from which many important insights into the discussion and the lecture process have been gained.

Viewing the course of research in this area, an interesting paradox presents itself. One of the tenets of the student-centered side of the controversy has always been the importance of student personality development. However, when the results are seen, it is apparent that these researches have occupied themselves with methods which were supposed to favor individual development, but they have never really concerned themselves with the impact of the particular teaching methods upon the different patterns of students' needs. This criticism applies equally to earlier and to current research. There is considerable value in asking why

[1] A perusal of the literature, however, indicates that two quite different teaching styles are contained under the rubric "student-centered" instruction. The one kind, advocated by Cantor (4), involves an active challenging of the students' positions. Here the instructor is a kind of "intellectual sparring partner." In the other method (3, 12), which is more Rogerian, the instructor plays a less active, less directive role. Thus, although progress has been made in operationally defining the student-centered method, conclusions from different studies, both purporting to use this method, should be made with considerable caution.

some students learn better under one method of instruction than under another, and reformulating the student-centered–instructor-centered controversy along these lines may prove helpful. To this end we now turn. First, let us consider the results of one or two typical experiments.

A growing body of research is indicating the importance of the interaction between group structure and individual personality. Henry Maas, in a nicely conceived study (9), showed that leaders who tended to project blame improved their interpersonal perceptions when they led informal, unstructured groups, while leaders who tended to introject blame made similar improvements when they led formal, structured, groups. In the first instance the relatively unstructured nature of the group, and the activities they undertook, made heavy demands upon the leader, which, in turn, fulfilled his needs to manipulate external things, to interact freely with the group members, etc. In the second case, the group structure and function made sufficiently light demands upon the leader to permit him to remain peripheral as much as his own needs required; and the nature of the demands themselves was of such a "ritualistic" sort that they served to reduce a certain amount of anxiety in a way characteristic of these kinds of people. Since in both cases their needs were met by the group structure, these kinds of leaders made positive gains in their perception of the group members. Those leaders who were "misplaced"—for example, an introjecting leader in an open group—failed to make any improvements in their perception.

Maas was concerned with the way the group structure articulates with the leaders' needs. In a study already reported (15), we investigated the relationship of two teaching methods and several patterns of students' needs. Using categories derived from Rosenzweig (14), we found that intropunitive students, who had high needs for structure, were extremely caustic in their comments about sections and instructors when placed in a "permissive" classroom situation. Similarly, students with high autonomy needs, who were extrapunitive, were extremely critical when put into a "directive" classroom. Students who were "satisfied," on the other hand, had relatively favorable attitudes towards the sections and the instructors.[2]

[2] Since this study was not designed to investigate this hypothesis specifically, it was impossible to obtain significant information on the performance of these three groups of students on the final examination. This is certainly a next step.

These studies, which are offered as illustration rather than as proof, suggest that improvements in perception are greater, and frustration is less, in classroom situations where the students' emotional-intellectual needs are met by the prevailing group structure. Since diverse investigations (2, 10) have demonstrated that the frustrated organism is a poor learner, we may therefore hypothesize that in order to maximize the learning process, teaching procedures must be made to articulate with students' needs. This does not mean, as some have attempted to demonstrate (3, 12), that all teaching must be permissive in order to reduce anxieties. On the contrary, the studies cited indicate that students have learned different ways of reducing classroom tensions, and the best teaching method for *some* students is not the best teaching method for *all* students. The studies do suggest that in order to make teaching as effective as possible account must be taken of both classroom structure and individual needs. Thus, we would further hypothesize that students will learn best in classroom situations which offer means of tension reduction which are commensurate with those already fixed by the students.

This brings us to a second aspect of the student- versus instructor-centered teaching problem. This point is concerned with a clarification and a definition of the variables involved in this kind of research.[3] Many studies have been conducted which terminate with the findings that in student-centered classes there is free student-teacher communication, more student-student contact, etc. These are reported as results, and they are taken as the dependent variable. Now, if our problem is to assess the comparative merits of instructor- and student-centered teaching, a more logical analysis of the experimental design will show that such things as the amount and kind of classroom interaction is not the dependent variable. Note the proviso "if our problem is the assessment of the

[3] Other writers have indicated the importance of this issue. For example, Allport writes, "We come now to the most difficult question of all. . . . As in any other scientific experiment two sets of variables are needed: the dependent, whose change we wish to measure, and the independent, whose impact we wish to know . . . these . . . become the evidences of educational progress in the student and the style of teaching employed" (1, p. 41).

relative merits of these two teaching methods," for herein lies the confusion. If our problem is to assess these two methods, then the establishment of the right "group atmosphere" is not the dependent variable, but rather an aspect of the independent variable. Such things as equalitarian superior status contacts and enhanced peer interaction merely prove that the situation has been correctly defined by the students—to use W. I. Thomas's phrase. The students understand "the rules of the game." In more psychological terms, we can say that the instructor has successfully engendered a set of expectancies in the students for this experimental situation. This can be done, as Lewin and others have pointed out, and if the purpose of our research is to see if group atmospheres can be established and manipulated, then such variables as the various kinds of classroom interaction are genuine dependent variables. However, if our purpose is to determine the *results* of such group atmospheres, then, once the proper group atmospheres have been established objectively, our research must proceed to independent criterion measurements made under the two, or more, different classroom situations.

It is worth emphasizing that in this kind of research it is necessary to "prove" the fact that the independent variable, the group atmosphere, has been established. This should be done by the reports of trained observers, and by the reports of the students themselves—their "perception" of the situation. Only after it has been confirmed that the different group atmospheres do, in fact, exist, is one justified in making his tests, comparing his findings, and concluding that the two teaching methods produce different results. In this sense this kind of research is more complicated than studies where, for example, motivation is defined in terms of hours of food deprivation. And this complication may have led to the ambiguous uses of the independent and the dependent measures. In order to avoid further confusion in this area, therefore, we will attempt to indicate the value of clarifying the status of the variables involved.

It is possible to construct a paradigm which can put the principal variables used into their proper places. In so doing we can integrate the two points made in this discussion. The emotional-intellectual needs which the students bring with them to the classroom can be conceptualized, for one research purpose, as the independent variable. These are then considered to be relatively stable, and no attempt is made to manipulate them. The teaching techniques are the intervening variable, and, as we have pointed out, the establishment of the group atmosphere, which is partly dependent upon the method of instruction, must be demonstrated independently. The dependent variable can be, then, the students' performance on some test of course-related material. This experimental model permits the independent manipulation of the three most important variables, which are generically conceived to be the students' needs, the teaching methods, and the performance on a criterion test. This way of conceptualizing the problem, however, may be applied to other hypotheses. For example, the group atmospheres may be considered the independent variable; the needs of the students may this time be considered the intervening variable, and some attempt might be made to manipulate them; and an examination over the course material could be the dependent variable. Thus, this paradigm permits of various different research purposes, and it has the advantage of writing into the experimental design all of the most important variables, each functioning in a given experiment in a definable and specific manner.

SUMMARY

In this discussion we have attempted to indicate some of the historical roots of the student-centered versus instructor-centered college teaching controversy, and have tried to show the influence of this historical background on the present status of the problem. We have emphasized the necessity for making teaching methods commensurate with students' emotional-intellectual needs in order to make learning maximally effective, and have suggested a way of conceptualizing this process which clearly defines the three most important variables.

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CONVENTION IMPRESSIONS

DURING and after an APA convention a favorite topic of conversation among psychologists is the convention itself. The annual gathering of the clans is a high point in the life of many psychologists. We thought it would be interesting—and maybe even useful—to psychologists to collect written impressions of the meetings and publish them for all to see. Accordingly we solicited essays from a number of people, each of whom we thought would view the convention through a different pair of spectacles. We did not succeed in getting all the pieces we asked for, and some of those we received did not have the flavor we predicted, but the final array is presented herewith.—Ed.

THE PRESS LOOKS AT THE 60TH ANNUAL CONVENTION

How did the 60th annual meeting look to the newspapermen who covered it?

The writer was in charge of the press room, a small pressure chamber generally unnoticed in the heat and blast of the mammoth boiler room which is an APA convention.

There, from 9 A.M. until about 7 P.M. each day, psychologists met the press. And on two or three occasions press and professor met head-on, and recoiled from each other, bruised like two people who have simultaneously bent over to pick up a piece of paper from the floor, and had their heads knocked together with velocity.

But generally they met in amity, as was verbalized (said, that is) by several reporters. From the viewpoint of the press an APA meeting is now judged "a good show."

As this is written, on a Sunday morning in the Hotel Statler, after the tumult has died, the "show" metaphor seems to have special validity (and, reading this note some time later, I note the phrase "three-ring circus" occurs more than once in the other contributions to this symposium).

This Sunday morning, the hotel officials who had been so brisk and hearty when welcoming the arrival of APA advance committees are now merely brisk. They are occupied with other advance committees for shows on which the curtain will rise next week. Before us, it had been the Greeks, a convention full of Greek-Americans with names redolent of Plato. After us will come the gerontologists—and the wholesale hardware men. The posters and banners of the APA are tattered now, or coming down from the walls. And the charwomen, as inexorable as time, are giving the place an exhaustive cleaning. These ladies start from the walls out, for apparently the blast of the APA boiler room has left a thin film of tobacco smoke, no doubt congealed with jargon, on the murals and the panelling around the Presidential and Pan American rooms, and the other innumerable council chambers.

There is a distinct flavor in the air of "After the Ball is Over," and it seems a good time to ask "What does it all amount to?"

So far as press relations of psychologists and their profession are concerned, there is something valuable simply in this: such an ebbing and flowing congregation (or convulsion) gives the press a chance to meet a lot of people called psychologists. As many professors say they go to the meeting "mainly to meet the people," so it is valuable, I think, for the press to meet real, live psychologists individually, *en masse* and *en passant*.

The press finds psychologists easy to talk to and comparatively easy to listen to—they are probably not so extraverted as Rotarians, but certainly at convention-time they are a far cry from the stereotype of the "mousy little professor."

Perhaps we can enter in the record one statement not from a member of the press, but from another seasoned observer of humanity—a bellhop. This morning a wise-eyed minion of the Statler, who did not realize I was a leftover from the convention, delivered himself of the following observation on these *S*s:

> Well, it was a good convention. You know, no trouble. Like all of them, they never go to bed. Two o'clock in the morning, still crying for ice. Well-behaved, though. I don't know of a single row with the help. Of course, they

like to drink a lot. But they all do. That is, outside the D.A.R. Those ladies don't drink at all. But *these* boys—what talkers! Not so much singing but talk, talk, talk, all night, and at nine o'clock in the morning the lobby is like the third round at a cocktail party.

Now newspapermen, as academic people may not be aware, are as fond of talk as any class of people in the world. And the thing about an APA convention, as distinguished from certain other stuffier gatherings—say, of the military, the reminiscent-military (no names, please), or big business—is that the APA participants are approachable, they will talk, and they will talk with a minimum of cant.

So one might have predicted that these professional listeners, newspapermen, would have a pleasant time at the convention with some other professional listeners (psychologists), who for the week had been turned loose to talk.

It might be noted, however, that some of the reporters complained about some of the current jargon. This is serious, for reporters get around—they are familiar with the government man and his "implementation" and "policy directive." They know the adman with his "socko packages" and "sizzler with plenty of sell." It is thus remarkable that they find psychological talk remarkable.

But today psychologists use so many words which have ordinary day-to-day meanings; they use so many which are not even agreed upon within the profession, and they use so many really hideous words like "constructs," that one can not help feeling there is a special horror about their language. Is it inevitable? Psychologists in the past have given us so many self-illuminating phrases, such as "conditioned reflex," that perhaps one must not give up hope that psychology is now going through a phase from which it may emerge with a clearer language reflecting a clearer self-knowledge. Or should we say, "Further exploration and amplification of semantic constructs may yet be meaningful, even resultful in dissipating interpersonal communicatory confusion, thus creating a greater integration of reciprocal relating in face-to-face relationships."

Sometimes reporters were amused with the psychologists they met, for there are still many reporters and many citizens in the world who find the special qualifying titles of scientific papers just in themselves amusing, and likewise they find the careful specifics of professorial explanations amusing.

As for the first, to the average reporter, a good many of the titles in the big blue program read to him like so: "A Study of Radiation-Induced Color-Blindness in Left-Handed Albino Penguins."

(I note with pleasure that some of the foreign visitors to the convention also complain that there are not more rigid standards as to what may be presented to APA, and also that they feel there should be more major papers of a synthesizing or philosophizing nature.)

As to the latter, there is another thing to be said. The talk of psychologists, one reporter told me, is quite different from that of other academic folk, in general terms. The differences, she said, come from the fact that by the nature of their studies psychologists are not so sure of themselves and, therefore, do not seem, to the press, to be so "arrogant." Perhaps psychologists are not so sure of their own minds, merely because they know how difficult it is to be sure of anyone's mind. No doubt some, reading this, will ask, "What do you mean by mind?"

Anyway, it is amusing to find this self-doubt, and amusing to find that psychologists do indeed talk among themselves just as cartoonists (and writers) and other light-minded people rather hoped they would. (You're fine, how am I?)

It turns out—as a psychologist might say—it turns out that psychologists *do* preface remarks with, "Well, perhaps it is just my neurotic honesty, but I feel . . . ." They do tell you about someone you are going to meet, and say, "Now you'll find him an anxiety type, with a rigid approach. . . ." (In the latter case the introduction then rapidly fell apart, for the speaker added, "But basically he's a real nice guy and a lot of fun on a party.")

Thus the press found the psychologists—rarely arrogant, frequently serious or overserious, sometimes amusing, nearly always approachable, and always talking.

And, if you took time to read a newspaper during the meeting, you saw the result was that a great deal of psychologists' talk found its way into newsprint. But that is another story.

MICHAEL AMRINE
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CONVENTION EXPERIENCES, OR OH FATHER, HOW YOU HAVE CHANGED

Dr. Sanford has asked me to contribute to this collection of impressions of the 1952 convention of the American Psychological Association. Apparently, I have been chosen as the "Old Timer," which is certainly appropriate. I attended my first meeting in Washington in 1911, the year before I was elected to membership. If my memory does not fail me, the recent convention was the twenty-fifth meeting that I have attended. The first time that I read a paper was at the Philadelphia meeting in 1914. And I want to establish, from the start, that my mention of changes does not mean to imply that these changes have not been for the betterment of psychology in general, and for the Association in particular.

In the first place, one becomes more and more impressed with the large numbers attending the meetings. This is simply a corollary of the growth of the Association. At the recent meeting, there were over 4,000 registrations, and who can estimate how many more were present who did not register. In contrast, when I became Secretary in 1926, there were fewer than 500 members. In other words, 26 years ago the total membership was less than one-eighth of the members registered in attendance at the last meeting. It will be remembered that the first election to Associate membership followed immediately the adoption of the necessary changes in the By-Laws in 1925. The 1951 Directory lists 69 Life Members, 1,506 Fellows, and 6,979 Associates for a total of 8,554, or more than 17 times the total membership in 1926.

This change in numbers has led to many changes in the form of the annual gatherings. These used to be called meetings, and they are now properly called conventions. The old timers find the rooms, and especially the corridors, far too crowded. And this is especially true inasmuch as few academic institutions can house such a meeting—it has assumed more or less the hotel-convention pattern. In the old days, all meetings were not only held in academic buildings, but rooming space was provided in student dormitories.

Also, in years past, there was an annual dinner attended by all members present who had the price, and followed by the Presidential Address. All of this made for better fellowship in the old days. Almost everyone knew almost everyone else at the meetings. New members and students were taken in tow by their professors and most carefully introduced to the older members present. Obviously this is not possible with the present crowded attendance. And, of course, another factor is the present great variety of interests and fields within the science. With the present specialization in psychology, one can hardly be expected to have a wide acquaintance with many individuals in remote fields. As the years pass, I am particularly struck by the smaller and smaller proportion of individuals in attendance who address me as "Ferny."

The time of the meetings has shifted from the Christmas holidays to the time between the closing of summer schools and the opening of a new academic year. This change was a valid one, inasmuch as the new time for conventions undoubtedly makes for a larger attendance. But the new time also makes for a difference in temperature. I can hardly remember being more unpleasantly hot than during the Toronto meeting in 1931. It is true that meeting in hotels has led largely to air-conditioned rooms, which will not be found in academic institutions. Of course, some will object to the cold of the previous meeting time, especially if they remember the Wisconsin meeting in 1923. And the meeting time has been extended from three days to seven days, or even eight or more if one considers the early meeting of the Board of Directors.

The reason for this extension is obvious. There are many more papers and meetings to be scheduled. I can remember the days when there was no duplication of programs. Then, most everyone who attended the meetings was interested in all phases of what was then considered psychology, and hence attended all of the sessions and listened to all of the papers. In 1926, fewer than 50 papers were read. In contrast, at the recent meeting (as culled from the program), there were 401 papers, 83 symposia, round tables, and discussions, 17 addresses (of which 4 were invited and 13 were presidential addresses), 58 scheduled meetings(including luncheons and dinners), and 7 film showings. This more than outnumbers by ten times the scheduled papers of 25 years ago. As an old timer, I am almost appalled when faced with the decisions of where to go and what to hear in the present set-up. But with our membership, and the

variety of interests among the members, such a program must be anticipated. But what will happen if, as, and when our membership continues to grow at its present rate? The officers and Program Committee are to be complimented on arranging shorter individual programs, usually with only four papers, a pattern which gives greater opportunity for circulation among different presentations.

I am also impressed, both with looking at the program and chatting with some of the officers, with how the Association has gone into big business. As Treasurer, I served for nothing and was amply paid for the small amount of work asked of me. As Secretary, I received a small sum which at least helped to pay for a part-time secretary. As editor of journals, I received a sum sufficient to pay for necessary postage and for some small amount of secretarial aid. Today, and again because of the large membership, this sort of volunteer contribution becomes more or less impossible, except, I hasten to add, for the Board of Directors who seem to meet more or less continually during the time of the convention. The result is a necessary concentration of executive power, primarily in the office of the Executive Secretary. And the policies of the Association are now determined, not by the total membership, but by elected representatives. The annual business meetings used to be amusing, and they no longer exist.

Let me indicate an example of the informality and the fellowship that existed in those days. At an annual meeting, the question of the change of meeting time was up for discussion. My very good and old friend Professor Dallenbach and I led the arguments on opposite sides. When a vote was called, it was obvious that a division was required. And, to the amusement of all present, the president appointed Dallenbach and me as tellers. Incidentally, Dallenbach won and the meeting times were changed from the Christmas holidays to sometime about Labor Day.

Now all such decisions are made by the Council of Representatives and, although there is a report by the Recording Secretary late in the convention period, few of us know what has been decided until we read the November issue of the *American Psychologist*.

In summary then, the conventions of the American Psychological Association have gained tremendously in importance and, as large conventions, they have been admirably administered. But, to an old timer, they have necessarily lost the close contact and the fellowship which was once such a marked characteristic of the earlier meetings, and again I draw the distinction between meetings and conventions. Indeed one can say, "Oh Father, how you have changed!"

SAMUEL W. FERNBERGER
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RECOLLECTIONS OF THE CONVENTION

When you make your home just twenty-six miles from the Canadian border, your recollections of a convention held in Washington, D. C., during a hot and humid week are inevitably colored by the struggle to adjust to the weather and the hotel air-conditioning systems. I must confess I lost both struggles. It is not strange, then, to find that most of the unpleasant incidents that come to mind are somehow related to that ordeal of heat and sudden drafts. The endless trips between the Mayflower and the Statler, the crowded reception hall, the packed social gatherings, the three-shirt-changes a day routine, and the contrasting, icy calm of half-filled meeting rooms are among these negative recollections.

There remain many positive impressions to balance these memories of physical discomforts. I enjoyed seeing old friends, meeting people who had previously been just names in texts and articles, having dinner with a former professor, hearing some excellent papers, and attending several stimulating panel discussions. It was particularly gratifying to meet and be remembered by some of my own former students.

On the "professional" side, I found the opportunity to preview films and the conferences on personality factors in vocational selections most rewarding. It seemed to me that some of the panel discussions would have been more successful if two, or at the most three, persons spoke. As it was, I found that sessions purporting to present different points of view turned out to be a series of somewhat unrelated papers, offering five or six shades of opinion—not necessarily on the same issues. The question periods after such panel presentations were, quite naturally, confused and rather frustrating.

The Washington meetings reinforced my feeling that conventions often neglect the obvious desire on the part of its members to use much of the time for informal meetings with the friends and acquaintances we see only on these infrequent occasions. Torn between the formidable listing of meetings and the desire to exchange a few words with a colleague, the net result is a reduction in the satisfaction from both of these important functions of a convention. I frankly do not know how the arrangements committee can resist the pressure for more and more papers, more and more conflicts in the schedule of events of interest to the same people, and the tendency to schedule the time for the sessions so as to encourage "meeting-hopping." ("I'll try the first part of this session and then the last part of that one.") I expect that better physical arrangements for the informal chats I consider so important are equally difficult to arrange. Dividing the meetings between two hotels and the housing into many segments is, probably, an inevitable consequence of the growth of our organization. The bigger we are, the harder we meet!

While at the convention I assisted our dean of the college in interviewing and selecting a new member of our psychology department. It seemed to us that some practical improvements could be made in the placement service arrangements. Greater privacy for interviews, less haphazard facilities for exchanging communications, bulletin board listing of job openings, a coded bulletin board listing of applicants, and provision for typing service (paid, if necessary) for both applicants and employers would provide valuable improvements in these placement arrangements.

As a final note, I should urge care in speaking to strangers. The most vivid, but certainly a sobering, recollection of the APA convention is the nationwide press and radio coverage (distorted, of course) given to a few casual remarks I made concerning the possible effects of television on children. At a luncheon meeting a representative of one of the news services made note of my impressions gained from numerous contacts with high school counselors in television and nontelevision areas. I expressed doubt as to the accuracy of the "television will create monsters" theory, indicated that the high school counselors in the television areas reported no unusual personality symptoms attributable to television programs, and observed that recent developments pointed toward a greater use of television as an aid in the educational process. The next day one of the Washington, D. C., papers had a "version" of my remarks on the front page. Wire services spread the item to newspapers and radio stations throughout the country and clippings poured into the public relations office of the State University of New York. Subsequently, I received urgent requests from the APA, from the State University, and from a committee of commercial television and radio broadcasters to furnish copies of my "research study" and the "paper" I had delivered at the APA convention. In fact, I barely avoided testifying at the Congressional hearings on the effects of television and radio the very next month.

But, despite the heat and confusion, it was an interesting and worth-while convention.

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APA MEETINGS—TIME FOR A CHANGE?

The 1952 meetings of the American Psychological Association have followed the same pattern as past meetings, but there have been more of them. Even without quantitative analysis, the 1952 program number of the *American Psychologist* seems to have more pages and weigh more than any previous number. With the continued rapid growth of the Association, more members will want to present more papers. Extrapolation makes the prospective number of future papers appear alarming.

I wish to propose some marked changes to overcome what may be the effects of tradition on the conduct of the meetings. The most important function of the APA meetings, as I see it, should be to present for those at the meetings, and for future use, the major trends, changes, and innovations in psychology during the year. Each yearly meeting should be a unique landmark which would allow an annual accounting in the various areas of psychology. The programs should be well organized, meaningfully integrated, and interestingly presented. This would place in proper perspective the excellent work being done by many psychologists at the meetings.

With these purposes in mind, only a relatively few well-planned meetings dealing with the most

important topics of the year would be needed. Could not these meetings be organized to fire the imagination of psychologists, to stimulate them to the best possible work? What psychologist would expect groups to learn much if he presented material in the manner in which he is exposed to it at APA meetings? Each meeting could be concerned with significant, major problems in research, teaching, professional practice, or other important areas of psychology. The most modern methods of presenting materials meaningfully and of obtaining audience participation could be utilized.

Each program committee could review and evaluate the year's work with a view to selecting meeting topics. A committee could be aided in this task by various official APA and divisional groups and by membership polls conducted to elicit information on current work, possible participation, and other matters. The topics would be of such stature that meetings would require half or full days. Not more than three or four meetings should be held at any one time; large meeting places would be needed. Three to four days should be ample to cover the program. Evenings could still be used for presidential addresses, business meetings, and other activities.

These changes would produce few if any losses. The research reports as now given are usually too brief to be fully appreciated. Most of them are published, at which time they may be much better understood. On the other hand, most of the lectures and symposia are not published, with the result that the opportunity to make long-term contributions is lost. Fewer individuals would participate in the actual programs, but relevant important contributions could be integrated in the presentation. Audience participation would involve more people. If a need is felt for the individual presentation of brief research reports, this could be dealt with at regional meetings.

What values could accrue to psychology by making these changes? The meetings could represent the very best work and thought in American psychology. Audiences could be given genuine intellectual stimulation. Such a high quality of psychological endeavor need not be lost to posterity. All the sessions could be published. Sound recordings and movies could be made so that the meetings could be used for both classroom and historical purposes.

The integrated, meaningful picture of psychological work presented in these meetings could do much to increase understanding and appreciation of psychology by the American public. Perhaps better integrated meetings would facilitate adequate news coverage. Some of the meetings, when held as envisioned here, could be broadcast or televised, with resultant educational benefits.

Meetings such as these, dealing with major, important problems each year, could act as unifying forces in psychology. Overspecialization, splintering groups, and schisms plague the development of psychology. Psychologists have little opportunity to look at psychology from broad points of view, to see their relation to the over-all subject, and to see how the various kinds of professional work and research fit together. Problems arising from overspecialization can be seen in some other professions. It is certainly not too early to make definite efforts to counteract such trends in our profession.

This is only a brief outline of a plan that would need a great deal of work before it could be put into operation. More work would be needed to make it operate successfully. The results would be worth it. Each year, the APA meetings would write important, significant pages in the history of psychology.

SIDNEY H. NEWMAN
U. S. Public Health Service

AN INNOCENT ABROAD IN WASHINGTON

Within the space of thirteen months, I have experienced the mixed pleasures and pains of three national conventions of psychologists. The first was a cozy little affair held in August, 1951, in Melbourne (a city of about one and a quarter million people) by the Australian Branch, British Psychological Society. About a third of our membership of almost three hundred attended. Almost everybody knew almost everybody else; only occasionally were there alternative items on the programme; all in attendance could be accommodated at the annual dinner of the Branch; and it was possible for the Melbourne members to play host at a party (beer, of course, being served) for the rest of us. Quite a few who had offered to read papers were rejected by the Programme Committee so that adequate time would be available during the five days for the presentation and dis-

cussion of those papers which appeared to deserve the favor. Alternatives were set down by this committee largely when it was felt that each of them was so specialized or technical as to appeal to non-overlapping audiences. No doubt the committee made some mistakes of judgment on both points. The second convention was held in Oxford, April, 1952, by the British Psychological Society. It was much bigger than the first and had necessarily to sacrifice some things in order to gain other advantages that come with size. Some four hundred members attended and it was clear to a visitor that almost everybody did not know at least a big minority of his confreres. For a good half of the time, the "two-ring circus" was in force, and in general the time allowed for speakers was less than in Australia, as was the time for questions and discussion—there were quite a few papers that had no more than thirty minutes. However, there were still many sessions in which the experimentalists, the psychometricians, and the clinicians were together, and so were enabled to come into head-on collision with each other. Perhaps, because these different varieties of psychologists see less of each other during the year than do their counterparts in Australia, these collisions were a little noisier and a little more violent than those to which I had been accustomed.

And then came the deluge! The many thousands of psychologists present in Washington and the many more thousands held as it were in reserve at their home bases, suggested to me a new yardstick with which to measure the relative standards of material and technological culture in the three countries of which I now have some first-hand knowledge. Up till then I had been accustomed to think of the relative numbers of automobiles, of telephones, and what not per thousand persons in America, Australia, and Britain (I set them down roughly in order of magnitude on these comparatively unimportant things in life); but in the future, I am tempted to make these comparisons in terms of the number of persons per thousand psychologists. The deluge took other form too. Upon receiving the July issue of the *American Psychologist*, I painstakingly worked through the many offerings, trying to make my choices in advance. My frequent donkey-like vacillations between the some half-dozen bundles of succulent-looking hay led me to formulate a theory about those who had told me they went to the convention site solely to meet their friends. I supposed that the self-same conflicting vectors now operating upon me served to drive them from the field. Later I formulated another hypothesis.

But although overwhelmed by so many friendly people and so many attractive looking items on the programme, I found the convention an exciting and rewarding experience. Part of this derived from the opportunities for attaching faces and personalities to the many names so well known through the texts and journals upon which we rely so heavily in Australia. Even more important were the opportunities for discovering the current thinking of some of these well-known people, or for discovering that some of them were not currently thinking. For these two objectives, the symposia and the addresses on the program and the private talks off it were the most effective means. But underlying and detracting from this excitement and reward was considerable frustration, arising most intensely from the clotted mass of short papers, some sessions of which went near to producing in me an audiogenic seizure.

My most general judgment of the convention was that this is a grand institution that you have, but that it is badly in need of a purge. The primary congestion is not caused by those who sat or stood around in the lobbies while sessions were in progress. They did nobody any harm and gave pleasure to many. The matter simply is that there is too much on the program, too much not deserving a space when space is so precious. This diagnosis can best be illustrated by reference to my *bete-noir*. Although the attempts to group the short papers in terms of probable audience interest were often ingenious, the groups too often were made up of items unrelated in real theme and uneven in quality—little gems and bits of lusterless glass side by side on the string. And when one had the not infrequent luck to encounter a gem and wanted to inspect it a little more, to turn it, as it were, from side to side to catch a little more of the real light in it, it was suddenly snatched away and too often a bit of glass was thrust into one's hands. Though I was subsequently glad that retroactive inhibition helped one bit of glass to push another from my memory, I resented its equal action on a gem. This demand for more extended treatment of a topic springs no doubt from a cultural difference which you may not share with me, but at least I can rationalize my prefer-

ence. For one thing, paper-and-print is the best medium for cut-and-dried presentation, whereas spoken presentation is best when the listener can and does reply. And again, though sixty minutes of poor stuff is more than four times as unbearable as fifteen minutes of the same stuff, there is much to be said for giving a man enough rope, even if he only succeeds in hanging himself.

Another product of the congestion is the thorough-going breakdown of the program by divisions, which is admittedly very efficient for some purposes. But surely, American psychology has not yet developed to the point where only the President of the APA and one or two others can find something to say that is presumably of interest and concern to almost everybody. This so thorough divisional segregation acts against the clashes of opinion that so delighted me at Oxford. Keeping sects apart helps keep the peace, but it does not help either to resolve their differences or to sharpen them to the point where what is to be resolved may be seen. Because the symposia did enable some differences to emerge frankly and clearly and because they did not demand a mental jump every fifteen minutes from crag to crag, or to abyss, these sessions ranked high on my list. And this evaluation holds even with the admission that the material in some of the symposia was lighter weight than that in some of the better short papers.

The remedies that arise from this diagnosis may prove hard medicine both to give and to take. There are many who want to give a paper and rigorous selection is difficult. So I wish to suggest an easier if less effective remedy. It involves an extension of the divisional breakdown—a kind of killing a fever with a fever. Two additions suggest themselves—21. Division of Free-Riders, and 22. Division of the Slave Market. The former would cater to those who give papers because by doing so they qualify for a contribution to their convention expenses from their employing institution. And the platform of the latter would be reserved for those who wish to exhibit their biceps to prospective employers of their services. It may be that old convention hands were more expert than I in smelling in advance papers of these two sorts masquerading in one or another of the existing divisions; but, possibly they were not and decided it was safer to stand around in the lobbies.

If in some way or other, these trivial papers could be eliminated from the program, the more serious, scientific papers could be given the time, the consideration, and discussion they deserve and need. This is not censorship that is being advocated, it is merely some respect for standards without which any scholarly, any scientific endeavor cannot prosper. The APA, especially in its convention (but elsewhere too), faces the issue of quantity *versus* quality. As things stand, quantity threatens to overwhelm quality. There is a lot of life in this giant frame, but it had better not forget what happened to the dinosaurs. Indeed, if Divisions 21 and 22 are created, their members should be encouraged to publish a journal. Members of other divisions should as a moral duty subscribe to it (and file its issues unread). Financial success thus guaranteed would ensure continued existence of the journal, which in turn would bring perpetual relief from strain upon the other journals. If, as it seems, the members of these divisions-to-be are making the American psychologist a reluctant listener, they may yet make him as reluctant to read his own journals as he is to read those published overseas.

Knowing that the convention was not made specifically to my measurements, I have no personal complaints about its failure to fit snugly all the regions of my (perhaps odd) intellectual anatomy. But suspecting that quite a few APA members have not entirely dissimilar dimensions, a complaint is being lodged on their behalf. I enjoyed my first (and I hope not only) APA convention—the foregoing remarks are merely a strange, antipodean way of expressing my appreciation to the APA for its hospitality to me in Washington, D. C., September, 1952.

W. M. O'NEIL
University of Sydney, Australia

PSYCHOLOGISTS BY THE THOUSANDS

Have you ever worried about over four thousand psychologists of varying sizes, shapes, sex, with differing purposes, ideas, identifications, and perceptions? Your colleagues in the Washington area did. Acting as the Local Arrangements Committee for the 1952 Convention, about 40 psychologists worried, worked, and wished over the convention proceedings and events for about six months before the meeting. During the preparations no one close escaped without a chore to be done.

Husbands, wives, children, secretaries, and graduate students were drafted. The 40 individuals on the Committee who gave of their time and talents so freely worked that all details of a large-scale convention would be handled easily and effectively. They worried that room arrangements, meeting plans, signs, dinners, etc. would come off as planned. And they wished that each APA member attending these meetings got what he wanted from his participation and had a good time.

One Committee member had an interesting experience trying to predict the sex of a psychologist from the first initial of that person's first name. It was a difficult judgment, and he was required for room reservation purposes to judge in two categories. Apparently, everyone was satisfied with the judgments made. But the Housing Bureau kept calling to ask what was the sex of the person whose first initial was "L."

Can a convention be managed from a D.C. police precinct house? It was done (that is if managers really manage) when the Convention Manager was held for several hours for speeding on Labor Day during a most effective safe-driving campaign. An hypothesis available for testing in the future is "the convention runs better when the Convention Manager is in jail."

Can anyone ever really predict how many psychologists will get up out of bed on a Thursday morning and attend an 8:40 A.M. meeting on some esoteric research area? Such predictions were made and probably the usual number of mistakes occurred. We assigned a room seating 1,000 for what turned out to be a select group of 20, and assigned a room holding 50 people to which 500 were attracted. Most of the predictions, however, were really good.

The Committee had to find a room for an *important* meeting of thirty *important* psychologists on an *important* committee in the next ten minutes in a series of rooms already scheduled for the next three days. Psychologists are inventive. Our Room Assignments person found space.

The Mail and Directory group never before realized how busy and important psychologists are. Even after the psychologist leaves his base of operations for three or so days, he leaves behind him a trail of U. S. mail consisting of assorted sizes of packages and letters of varying degrees of urgency. Anyone would be impressed with the ingenuity of our colleagues in using scraps of paper, corners of envelopes, white shoe strings, shirt collars as places upon which to write notes for Joe to meet him! We must express our regrets for not foreseeing the need for more appropriate and extensive mail facilities.

At the same point in time the Committee had to do (among other things) the following: find a black bow tie, supply the name of a lawyer, find some books, locate somebody's husband, count money, sell programs, make signs, change rooms, offer directions on how to get into the city and out of the city, provide guides for tours of the new headquarters, etc.

If anything was demonstrated by the behavior of the 40 or so psychologists responsible for the convention, it was their great enthusiasm, skill, and good sense. In the future we will all be very happy to attend conventions in any other city of the country, and appreciate the "behind the scenes" efforts involved.

The Committee made an assumption about nearly 5,000 people and faced the very disconcerting situation of having the usefulness of this assumption tested in the very near future. We assumed that psychologists would act intelligently and in a socially responsible manner, if we provided them with pertinent information on which to act, rather than do the tasks for them. It was our guiding philosophy to help people do what they wanted to do, but not to do it for them. Apparently, this assumption about the behavior of psychologists is one which we might have had no fear in making. Psychologists are all to be congratulated. We can report no broken bones, broken chandeliers, or even minor damage to physical property of anyone concerned. No one has grounds to complain much about psychologists' convention conduct.

Before closing, we might consider a little more seriously some continuing problems of our conventions which are due to grow in size and importance. Why do psychologists come to a convention? What do they do? What do they want to do? With the help of many people we have been able to make a start in answering these questions. Father J. W. Stafford (Catholic University) and his students were able to run a census of attendance at the various portions of the program. The APA Committee on Questionnaires under Ray C. Hackman, with the help of a group

of VA clinical psychology trainees, tried to ascertain the feasibility of interviewing members during the convention, studying attitudes towards the contents of the program and the usefulness of the abstracts issue of the *American Psychologist*. An *Ad Hoc* Committee on the Convention Program has been called into action. From this group should come some pertinent suggestions on what should take place during our conventions.

The Local Arrangements Committee was glad to have you here in Washington. We hope you had a good time, met some fellow psychologists you didn't know before, renewed old friendships, heard a good idea or a good paper or a new story, and came away impressed with the growth of psychology.

SHERMAN ROSS
1952 Convention Manager

THE GREATEST SHOW OF THE YEAR

Americans are now quite accustomed to the astonishment of their western European visitors at the vastness of their country, its various enterprises, its educational systems, its hospitality. But even for an American, three years abroad is sufficient to require some considerable re-adaptation to the grand scale on which affairs are organized.

The size of the program arranged for the APA's Washington conference is an awe-inspiring sight to members of western European psychological societies who have only recently agreed—with considerable reluctance—to the scheduling of parallel programs at annual general meetings. With so many choice morsels dangling before him, the visitor may vacillate, as an intellectual Buridan's ass in the throes of conflict, wondering which program to attend. But with a little coaching he may learn the local method for relieving tension by leaving the field and seeking his enlightenment in the company of other fugitives at one of the inevitable "gatherings" that distinguish APA meetings from the more sober, or should I say "somber," conferences of his native professional society.

The size of the APA and its annual meeting could not help but lead to specialization of interests. Members of smaller societies attend their annual conferences expecting to listen to speakers from many fields. Indeed some feel that this is an opportunity to discover what advances in knowledge, what points of view, what new methodology those in other fields have now to offer. With large numbers of papers in particular specializations it seems to have become much easier for APA members to rationalize themselves into attending discussions of their own specialty or its very close-of-kin only.

The visitor who seeks to find the ground upon which the impressively large structure of American psychology is founded cannot fail to recognize that the profession enjoys a much fuller acceptance by society in that country than in his own. Although the lay American may be as confused in his everyday "use" of psychology as the lay European, American psychologists appear to have convinced at least certain important social institutions that the psychologist can make significant contributions in American society. Psychology in many other countries does not enjoy a comparable reputation. The consequences are that the struggle for recognition necessary to the healthy development of the profession is still a very persistent and time-consuming reality. The far-reaching enterprise of American psychologists was strikingly evidenced at Washington, not only in terms of the wide range of subjects discussed but also in the special meetings of persons associated with specific industrial, clinical, military and other social agencies.

In addition to other advantages, acceptance by such agencies has meant extensive financial support for psychological research. The extent of this support as evidenced at the 1952 meetings is far beyond the European psychologist's capacity for imagination. It is true that agencies providing financial support for research in Britain are at present very sympathetic in their considerations of requests from psychologists, but they are few in number and limited in funds. The more extensive financial support of psychology in America is one of the factors contributing to the position of world leadership in psychological research which American psychologists have now achieved. With such a position come certain responsibilities and it is encouraging that American psychologists on the whole, as evidenced in their discussions of research programs at Washington, have not dashed off in all directions chasing *ad hoc* problems, but have insisted on the importance of systematic attacks on psychological issues at the level of fundamental research. The potential evil of channelling re-

search to fit the limited interests of supporting agencies seemed to be less of an actual worry than might have been anticipated, despite the occasional observation that a psychologist was not carrying on research of major interest to him but rather research which he believed was more likely to receive financial support.

Through what may indeed be somewhat jaundiced eyes, European psychologists not too infrequently view certain of their American contemporaries as overemphasizing technology without having achieved the strength of scientific foundation to support it soundly. Concern over the possible dangers inherent in such a situation could be recognized as appearing fairly frequently during the Washington meetings and it reached threshold value in the discussions of certain groups. Examining in retrospect certain undercurrents discernible in the flow of last September's events leaves the strong impression that here is a matter which is likely to appear persistently in the future affairs of the Association.

It has been rumored in European psychological circles that American psychologists are plagued by the dictum "publish or perish." The quantities of American publications in psychology during the past several years of expanding research opportunities have been interpreted by some as evidence in support of this rumor, and the visitor to Washington last September might have concluded that what he heard and the book exhibits he saw did little to contradict this impression. It is *not* true that *everyone* is writing a book, but it somewhat puzzles the impecunious western European visitor as to who buys all the books that *are* written and how his American friends find time to decide which books are worth-while reading.

This 1952 meeting left a definite impression that American psychologists are conscious of and interested in their responsibilities to society as well as the contributions they can make to its welfare. Those who attended the meeting learned that in facing these responsibilities American psychologists, through the APA, have undertaken to investigate systematically such matters as professional ethics and standards, training at undergraduate, graduate, and special school levels, relations with other professional groups and with the general public. As a society they saw fit to express publicly their disapproval of incidents involving racial discrimination. As individuals and through their appointment of a committee on international relations in psychology they showed a concern over professional matters which went beyond national boundaries, a concern which is welcomed by many psychologists in other countries.

With little fear of contradiction it can be said that the 1952 APA Annual Meeting was the greatest show of the year in psychology. If there were any really dull moments, the spectator can only blame himself for not shifting his attention to another ring. As is characteristic of all complex stagings, no amount of effort on the part of any single observer could ensure entirely that he would not miss some of the spectacular acts. For anyone who was taken in by the freaks it can only be said that "suckers" may be born even among psychologists.

ROGER W. RUSSELL
University College, London

THE CONVENTION AND THE YOUNGER PSYCHOLOGISTS

Many APA members, especially on the last days of an annual meeting, start reminiscing about the good old days when meetings were small, intimate gatherings, held in the quiet dignity of a college campus. But just as many, and perhaps more, of the younger psychologists never saw those halcyon days. The only meetings we have attended are large, hectic affairs. The only program we know is the one crammed with papers and symposia and business meetings and social affairs. This is what we expect of an APA meeting. But what do we think of it? Although I can speak only for myself, here are some of my reactions to the last meeting.

While the meetings are certainly a valuable experience, it seems to me that many of the benefits come, not from the convention program itself, but from other parts of the convention. The placement service, for example, is most helpful to anyone who is either interested in changing jobs or wants to get a general idea of the kinds of jobs which are available in psychology. At the annual meetings we also have an unusual opportunity to meet other people in the field and to exchange ideas with psychologists whose interests and areas of work may be similar to ours. However, one's first APA meetings are somewhat bewildering. I think that academic advisers who encourage

younger people to attend APA meetings should take the responsibility for seeing that the younger people do have a chance to benefit from them. It is sometimes difficult for a person attending his first APA meeting to know which parts of the program will be interesting and worth while unless someone is willing to advise him.

Although the opportunities to meet other people in the field of psychology and to learn more about the field itself are certainly good criteria for evaluating the APA meetings, I believe they should be considered secondary to the actual APA program itself. I have heard some general criticisms of the kinds of research reports which are made at the meetings. In many cases these papers are devoted to research findings which, because of the necessarily short time which can be devoted to them, are reported out of context in terms of relationships to larger research projects. We hear about research that is not particularly meaningful in itself, but which gains meaning only when reported in terms of finding the answer to some larger psychological question. A young psychologist coming to an APA convention and listening to all of the papers gets the impression that psychological research is made up of a series of small unrelated projects, without any particular relevance to anything else that is being done in the field. This seems to be a valid criticism, even though it can be assumed that those people attending APA meetings have a common knowledge of psychological progress. It would perhaps be better to bind the various elements of the program into a more or less unified whole. One way in which this might be done would be for each division to select a theme which would provide a framework into which the research papers could fit. This might mean losing some of the present breadth of subject matter which is now touched upon. However, younger psychologists in particular would probably find that the meetings would be more helpful to them if they included a more comprehensive coverage of one aspect of psychological research and thought in each division, rather than a series of relatively unrelated research reports.

It is also possible that the kind of research papers read at the meetings would be more meaningful if they were presented in written rather than oral form. This raises the question of the kind of content which should be included in the meeting. Perhaps panel discussions and seminars, which could not adequately be replaced by written reports, should be emphasized. Since attendance at conventions has become so expensive, perhaps the APA convention program should be limited to the kinds of programs which are effective only when presented orally in a meeting.

This question is closely related to that of the selection of psychologists to participate in the program. There should certainly be a place for participation by younger psychologists who have not yet made a series of contributions to psychological knowledge. However, many of us would prefer to hear more from those psychologists who have "arrived" as leaders in the field. Perhaps the time has come to consider a place on the program as recognition of outstanding service to the profession over a period of years. A larger part of the total program could be devoted to fairly informal discussions of some of the questions which are still unanswered by psychologists. This, of course, would not eliminate the reporting of research data but would mean that the results of research projects would be reported by the experts in the area of knowledge under consideration, and would be reported as part of a larger discussion topic.

The suggestion to have those psychologists who have made outstanding contributions play a larger role in the meetings themselves would raise one serious problem. We would probably find that the people most in demand for the program would be the very people responsible for taking care of the Association business to be transacted during the annual meetings. Perhaps an answer to this problem would be to limit the program to two or three days with the rest of the time being devoted to organizational business of all kinds. If this were practical in terms of the operation of the Association, it would mean that those who neither hold office nor serve on APA committees could attend the meetings for a shorter time. This would possibly eliminate the problem of diminishing attendance during the last part of the week.

I would like to repeat that I am convinced that the APA convention does serve a worth-while purpose for the younger psychologists who are able to attend. I do believe, however, that a general tightening of the program would make it a more valuable experience.

DOROTHY SNYDER
University of Minnesota

SOME REMARKS OF A DUTCH VISITOR

To a visitor from abroad, and especially from a small country like The Netherlands, many things and events in America are "very" in size and amount, and so is an APA annual meeting. It is, in fact, nearly incomparable to what goes on at the annual conference of the Netherlands Institute of Practising Psychologists, which boasts of its 160 members (candidate members included). Such a conference is well attended if about 60 members find themselves together, and two sheets of paper suffice to contain the program for the two days.

So, when I gratefully accepted the invitation to attend the APA meeting—at that time I happened to be in the United States on a six-month study trip—I really did not have an adequate picture of what was going to occur. I presumed that it would be somewhat like an International Congress in Europe, with say 600 attendants, of whom a hundred might be active participants. But even this expectation turned out to be completely inadequate as soon as I received the July issue of the *American Psychologist* with its 200 pages of preparatory information. About 400 papers and 80 symposia, discussion groups, etc., and, in addition to this, special addresses, business meetings, film showings, and social gatherings! To an outsider who does not know too much of the inner structure of the APA and does not belong to any grouping, it is a little bit overwhelming. I remember the inner embarrassment I felt while trying to select from the plentiful offer a suitable program for the week to come, so that I would not be near to a breakdown at the close of it.

I remember also that I asked myself this question: why this abundance of papers? It is still an open question to me. I have been told, however, that the annual meeting has as one of its values that it serves as a "talent show" and as an exhibition of the achievements of the various research centers. Besides, there seems to be some evidence that this abundancy of production is related to characteristics of the American culture and its emphasis on quick performance.

Two features that struck me in this conference may be linked with the presentation of so many contributions, although a full explanation might call for a consideration of American life in general. First, I have the impression of less personal involvement (of the speakers as well as of the audience) than at a European conference. The atmosphere may well be illustrated by the words with which N. P. Cantor ended his original contribution to a symposium on teaching methods: "Take it or leave it, and God bless you." When one is flooded with material, it is impossible to be deeply concerned with every single thing. It seems to me, however, that the apparent overloading of the program does not sufficiently account for the equally apparent unconcernedness; it must be rooted in something else. A second characteristic, undoubtedly related with the first, was the awareness of so many contributors of the relative value of their findings, opinions, and views. In Europe, still too many like to consider their personal standpoint as something of absolute value. Although apostolic fire has its charm, even in science, the general admission of the bounds of our cognitive power, as manifested at the conference, was a refreshing experience. This attitude was perhaps also one of the main factors in creating an atmosphere of tolerance and willingness in so many discussion groups; a releasing atmosphere of "don't take yourself too seriously."

Maybe these two features show the two sides of one medal, and maybe the unacceptableness of the reverse can be raised only when the awareness of the relativity of personal opinions stimulates a deeply concerned search for what is of real, general, and absolute value in science.

By far most interesting to me were some of the symposia and discussion groups I chose to attend, most of them in Divisions 2, Teaching of Psychology, and 8, Personality and Social Psychology. They offered an opportunity to get somewhat acquainted with the divergent views of American psychologists on several subjects of interest. Apart from this, it seems to me that any conference would gain by reducing the number of papers read to an audience, listening or not, and by increasing the number of discussion and round-table groups. And again the question arises, why these 400 papers? It is my conviction that we cannot dismiss all the lectures for our students—we need them for a condensed transfer of knowledge—but, this argument does not hold for an APA meeting.

One of the most enjoyable and successful discussions among those I attended was that on "Needed Research in the Teaching of Psychology"

(C. R. Carpenter, chairman). Out of an initial chaos of contributions and opinions gradually grew some clear-cut ideas about the factors involved in the teaching procedure and about the problems that research will have to face. In addition to this, I would like to mention the symposium on "The Effects on Segregation" (Gerhart Saenger, chairman), which was encouraging, not primarily because of its formal characteristics, but because of the attitudes displayed in the discussion. In European eyes, race discrimination and segregation are weak spots in the American democracy (in spite of a certain understanding of the historical background of the phenomena), so it was a pleasant experience to discover that the APA perceives the problem in a way which is not distorted by prejudices derived from the past.

One other aspect remains: the topics representing the mainstream in American psychology today. Surprising, at least at first sight, was the strong position of the more or less classic experimental psychology, which lost so much ground in Europe, especially after the collapse of scientific psychology in Germany in the early thirties. America is apparently the only country which has sufficient resources to maintain this theoretical research on a larger scale. Maybe other factors, such as the still prevailing interest in quantification and the continuous development of statistical devices, have their influence. More important to me, however, seems to be the fact that American experimental psychology has not lost its way in the maze of *possible* topics for research, but has developed in close contact with the needs of the reality of social life: it concentrates on problems of perception, learning, and motivation. Thus, it fits in nicely with America's main concern, the problems created by lack of adjustment and of accomplishment and by deficiencies in human relationships, and the efforts of dealing with them along different lines. All this was well represented at the conference, and in great variety.

On the other hand, I did not find too many contributions dealing with the fundamental problems of psychological science, e.g., problems related to basic conceptions and assumptions, problems of definition and terminology, epistemological problems in practical methodology, problems of values and norms. Does the absence of contributions in these fields mean that there is no divergence of opinion among American psychologists and, consequently, no reason to discuss these problems? Or does it mean a trend toward emphasis on action in experiment, research, and practical problem solving rather than on reflection on basic principles and issues? Perhaps it is something else. I would like to propound it to the APA as an open question that deserves attention.

To conclude these remarks, I would like to say that this APA convention fulfilled a double function for me. I not only got a little bit acquainted with present-day psychology on this continent, but I also met colleagues and made contacts which I hope will be of value to the scientific development and the training of students in my own country. Moreover, the exhibitions of books, equipment, etc. helped to bring me up to date. Thus, the conference was in many respects a worth-while experience.

TONKO T. TEN HAVE
University of Amsterdam

Comment

"Neo-Freudian" or "Neo-Adlerian"?

Report on a Survey Conducted among Members of the American Psychoanalytic Association [1]

The problem. In recent years the term "neo-Freudian" has been used with increasing frequency to refer to deviators from Freud whose position may be briefly described as stressing social relations rather than biological factors, the self rather than the id and the superego, the striving for self-actualization rather than the sex instinct, and the present situation rather than early experiences. On occasion, however, it has been pointed out that these new theories are actually a restatement in somewhat different terms and a further development of theories which were originally formulated by Adler. Wittels [2] suggested as early as 1939 that "neo-Adlerian" would be the more adequate designation of these deviations. We concur with Wittels on this, although his evaluation of Adler and our own are opposed, Wittels being a classical Freudian and we in sympathy with Adler and the above-mentioned current developments. If these are in fact closer to Adler than to Freud, then the current usage of the term "neo-Freudian" does injustice to Freud as well as to Adler and, beyond representing a personal injustice, obscures psychological theorizing. In order to obtain a judgment on this issue, we decided to submit the question "neo-Freudian" or "neo-Adlerian" to the members of the American Psychoanalytic Association because they would understand Freud and the deviations from him better than any other group, and would, as a matter of Freudian tradition, also be keenly aware of Adler.

Procedure. Between April 19 and 25, 1952, a self-addressed and stamped post card with the following two questions was mailed to the 444 members of the American Psychoanalytic Association: (1) "Do you consider 'neo-Freudian' the more CORRECT designation for the movement in psychoanalysis which today goes by this name, or would 'neo-Adlerian' be more CORRECT?" (2) "Regarding psychoanalytic theory, do you consider yourself a Freudian or rather a neo-Freudian?" The second question was asked because among the members some are deviationists, and we assumed that these would be more favorably disposed toward the term "neo-Freudian" since they benefit by the prestige value attached to the name of Freud. For the first question the respondent could choose among the alternatives: "'neo-Freudian' is more correct," "'neo-Adlerian' would be more correct," and "neither is correct." For the second question the choice was among "Freudian," "Freudian with reservations," "neo-Freudian with reservations," "neo-Freudian," and "none of the above." The post card questionnaire was accompanied by a letter which explained the study and named as representative "neo-Freudians" Erich Fromm, Frieda Fromm-Reichmann, Karen Horney, Abram Kardiner, Patrick Mullahy, Harry Stack Sullivan, and Clara Thompson.

Results. The issue covered by the survey was apparently of lively interest to the psychoanalysts. Fifty-one per cent, that is 226 psychoanalysts, replied, and among these, two-thirds signed their names to receive a copy of the results, while one-fourth spontaneously made comments which in seven cases took the form of lengthy letters. The quantitative results from the two questions submitted are as follows:

Choice of Name	Theoretical Orientation of Respondent					
	Classical Freudian		Neither, or No Answer		Freudian-with-Reservations	
	N	%	*N*	%	*N*	%
"Neo-Adlerian"	59	41	1	3	6	11
Neither, or no answer	75	53	29	97	20	37
"Neo-Freudian"	8	6	0	0	28	52
Total	142	63	30	13	54	24

The largest category, the classical Freudians, comprising 63 per cent of all respondents, preferred "neo-Adlerian" to "neo-Freudian" at a 7 to 1 ratio (41 per cent against 6 per cent) for those who made a choice between the two terms, while 53 per cent considered neither term correct. If we regard the term "neo-Freudian" by itself, it was rejected by 94 per cent of this group. Secondly, the 24 per cent of the respondents who considered themselves Freudians-with-reservations, including 6 "neo-Freudians"-with-reservations and 4 "neo-Freudians," in the majority favored the term "neo-Freudian," preferring it to "neo-Adlerian" at a 5 to 1 ratio. This was as we expected for the reason given above. Finally, the 13 per cent who refused to commit themselves theoretically also refused to accept either of the two suggested names.

Representativeness of the results. This was tested by analyzing the replies according to time of arrival.

[1] This survey was supported by a grant from the University of Vermont.

[2] WITTELS, F. The neo-Adlerians. *Amer. J. Sociol.*, 1939, 45, 433–445.

Replies received during the first 9 days (70 per cent) were compared with those received during the following several months (30 per cent). The most important outcome of this analysis is that for the classical Freudians the ratio of "neo-Adlerian" to "neo-Freudian" remained the same, namely 43 to 6 for the 98 early, and 16 to 2 for the 44 late respondents, while the "neither" choices increased from 50 to 59 per cent. We therefore consider it reasonable to assume that for the nonresponding classical Freudians the percentage of "neither" choices, in continuation of the observed trend, would be still greater, while the proportional preference of "neo-Adlerian" over "neo-Freudian" would remain equally great.

IMPLICATIONS FOR THE PSYCHOLOGIST

Regarding nomenclature, the use of the term "neo-Freudian" should be seriously questioned, since only 6 per cent of the classical Freudian respondents consider it correct. "Neo-Adlerian" might be considered instead, since 41 per cent of these respondents judge it to be more correct. Or else, since over half of all the respondents approve of neither term, a new generic term might be desirable. In this connection, however, we found that in spite of numerous spontaneous comments, none of the respondents came forward with the suggestion of a new term.

Aside from the problem of terminology, the considerable endorsement of the term "neo-Adlerian" for the theories which presently go by the name "neo-Freudian" must be interpreted as a judgment by the classical Freudians that these ideas which today find increasingly wide acceptance are essentially those which Adler originally expressed, although they are generally not recognized as his. The implication of this judgment for the psychologist is to re-examine Adler for his relationship to these new developments, in the interest of a truer historic perspective and better systematization and clarification of personality theory.

H. L. ANSBACHER
University of Vermont

Comments on the Proposal for a Psychological Museum [1]

PSYCHOLOGICAL MUSEUM

Historiophile wants a museum of old historically significant psychological apparatus in the new APA building. It would be a splendid thing to have if it could be properly arranged and cared for. It would be interesting and it would dignify psychologists by linking them up to a respectable, if quaint, pre-electronic experimental past. And I can speak of this matter because in 1915 I made the second inventory of the Cornell Laboratory (the first was the printed one of 1900) and then in 1920 the first inventory of the Clark Laboratory. I never inventoried the Harvard Laboratory; E. B. Holt had done that. So let us dream now about an apparatus museum just to see what is involved; the project may not turn out to be as simple as it sounds.

There would have to be a responsible chap who is keen about this museum idea, so keen that he will put in more hours than he is paid for, a man who is fascinated by recreating first for himself and later for others the atmosphere in which the experimental psychologist used to work. He had better be youngish and a PhD from a university where German and French are not yet extinct. He will have more work in building up the museum than in running it later, so he might start as a full-time man, or else as a half-time man for twice as many years. We need not try to settle hours and salary here. We shall call this chap the Curator. Conceivably he might be a Curatrix, if you could find a woman psychologist more interested in motors than motives.

The Curator will begin by getting up a preliminary sophistication about psychological apparatus. He will go to the manuals (e.g., Wundt, Hering, Titchener) and the handbooks and the old apparatus catalogs (Zimmerman, Spindler and Hoyer, Max Kohl, Verdin, and even Stoelting). He will write to our Life Members and get them to reminisce about experimentation in the 1890's and 1900's and what there was around the labs in those days that was already old and tradition-haunted. He will begin to get a line on where the desirable pieces are, and he will write to directors and ex-directors for more explicit information about what is gathering dust in the attics of the old laboratories. Then he will try to cadge the best thitherto neglected pieces from the old laboratories. That will be difficult, for forgotten dusty pieces at last wanted will suddenly seem valuable, and directors will reflect that in any case they have no right to give away what is the property of trustees or regents. So perhaps the frustrated Curator presently commits suicide and the museum space gets filled with back numbers of journals. Let us suppose, however, that he succeeds in getting the nucleus of a museum. The rest could be attracted to this core in years to come.

The next job is display—space, protective glass cases, enough illumination. And probably then more space. The first estimates are almost sure to be too meager. You must not just jam stuff in together. Things ought to be set up as if they were ready to work and not stood up as hunks of machinery. A Hipp chronoscope, with all its appurtenances (control hammer, reaction keys, commutators, calibrating chronograph), set out as

[1] See HISTOROPHILE. A psychological museum. *Amer. Psychologist*, 1952, 7, 596.

if ready to operate, would take up considerable space. Nothing else should stand so near as to appear as if it might be a part of the Hipp set-up. Broken parts of apparatus should be mended and missing parts replaced, but with clear indication of what is new and what is original. There should be labels and descriptions of such degree of elaboration that the visitor can understand, without consulting his catalog, what the apparatus and its special parts are for. Particular parts would need their special labels.

There should, however, be a guide or catalog too. Getting it up is the way the Curator has fun, and the result could be just ever so good. It would describe each piece and how it works, date it, make some effort to recreate the atmosphere of the time when research or demonstration required that kind of apparatus. It might mention how improved technics made the piece obsolescent (fall phonometer outmoded by electronics). In the early years the catalog would be steadily growing and could consist of mimeographed sheets stapled together from time to time.

If anecdotal material turns up, it could be included in the catalog. In any case for the Galton whistle you would wish to tell how it came to be miscalibrated so that psychologists thought for years that the upper limit of hearing was somewhere in the region of 30,000 to 50,000 cps. What about Appunn père? Did he really die of a broken heart when his tuning forks for the high frequencies turned out to be in error, as Titchener used to say? And then there is the American who wondered why Wundt was forever calling the Hipp chronoscope pretty, mishearing *das Hipp'sche Chronoskop* as *das hübsche Chronoskop*. I can contribute the rubber stamp for marking coordinates on the skin when temperature spots are to be mapped, the one that, lost in the post office at Drake University, was used for years to cancel mail. The Curator would appeal to the Life Members for this anecdotal material; they ought to earn their keep.

A museum that works is much better than a dead one. This is another matter that the Curator should keep in mind. Suppose that he could get from Cornell or Harvard or Clark an Ellis Harmonical, built to illustrate Helmholtz's *Tonempfindungen*. It has in it many of the enharmonic intervals. How many persons have ever heard a comma (about ⅕ semitone, sounds more like a mistuning than a change of note), and how many know the difference between a major tone (204 cents) and a minor tone (182 cents)? The Ellis has these and all the first 16 harmonics of 132 cps. What fun if a vacuum could be permanently put on this organ and the visitor given enough keys outside the case so that he could hear the different intervals and the different harmonic patterns under his own control. Would there be any chance of getting a Helmholtz clang synthetizer ("vowel apparatus")? It might be set up to work, not with its own driving fork in which the spark would oxidize, but with some modern electronic driver at 128 cps, with the visitor put in command to give himself harmonic patterns and, following the instruction card, what Helmholtz thought were different vowels. And so on and on.

Another way to make a museum less dead is to bring into focus special pieces at different times for temporary veneration. There could be a shrine where something special with extra information could show itself for a time, being then replaced by something else. And pieces on loan and not left permanently with the APA could be displayed there. The frequent visitor to APA would gravitate toward this shrine to see whether the focal exhibit had been changed.

It is not impossible that an historical museum of this sort would develop eventually into a science museum for psychology, where the visitor with modern technics could take his own reaction time, see polaroid stereoscopy, pulling his binocular fusions out into diplopia, determine for himself various visual and auditory threshholds, and use Galton's shot apparatus to throw himself a normal distribution. There are any number of good perceptual visual demonstrations, from Ewald Hering to Adelbert Ames. Does this sound ambitious? Why should not American psychology be ambitious and bold in its undertakings? Look at what it has achieved in its first fifty years and in its most recent ten!

EDWIN G. BORING
Harvard University

IN FAVOR OF A MUSEUM

I am shocked by the feeling tone aroused in me as I block out this note prompted by "Historophile." Introspection, if one may use that technique these days, reveals that I am rapidly becoming an oldster because my first explorations in the field of psychology go back more than thirty-five years.

Seeing, as I do, many psychologists with the bloom of youth on their cheeks and the vigor of fresh knowledge backing up their drive, I am constantly amazed by their lack of appreciation of what has gone on before their Don Quixote enknightment.

I am all for this selective accumulation of psychologicama, for truly rich sources of interesting material still remain. Today's psychologists and those yet to come will deeply appreciate seeing this rich foundation of our important field of study.

L. N. YEPSEN
State of New Jersey
Department of Institution and Agencies

ACQUISITIONS FOR THE MUSEUM

I am enthusiastic over Historophile's suggestion that we establish a psychological museum. I, too, know of historical treasures that take up much-wanted room in various laboratories.

For example, I was informed that the correlation-calculating machine devised by Clark Hull in the 1920's is gathering dust in an obscure storage space at the University of Wisconsin. At the University of Mexico I saw a roomful of dust-covered apparatus which J. Mark Baldwin had installed when he became professor there in 1915. Perhaps the University would be willing to donate the entire lot. At the University of Wyoming I once saw a collection of autographs of the leading psychologists of the former generation, assembled by the late June Downey. C. H. Stoelting might have no-longer-marketable pieces which they would donate.

If you should test the feasibility of the idea by requesting the executive officers of the older laboratories to send in lists of materials they could contribute, I feel sure you would receive an encouraging response. As usual, in enterprises of this nature, the assembling of materials should start now while persons are living who belong to the second generation of American psychologists and who are able to document articles whose history and significance they alone know.

I can foresee that in the year 1992 when the APA celebrates its centennial in Washington, the proposed museum might be the most attractive feature of the meeting.

HARRY D. KITSON
New York City

JOURNAL OF THE HISTORY OF PSYCHOLOGY

I am one of the readers sharing the views of "Historophile" in connection with the proposal regarding a psychological museum. Furthermore, it seems to me that consideration should be given also to the possibility of establishing a journal devoted to the history of psychology.

In the field of medicine, there are at present two historical journals, The *Bulletin of the History of Medicine* and the *Journal of the History of Medicine and Allied Sciences*. Although work in fields related to medicine is published in these journals, I believe that psychology is barely represented, if at all. Allowing for differences in the history and development of medicine and psychology, it appears to me, nevertheless, that a sufficient number of qualified persons would be interested in and would contribute pertinent studies to such a journal of the history of psychology.

JEROME M. SCHNECK
New York City

Lecture Notes—1890

After the death of Professor Josiah Royce of Harvard, I was able to purchase a number of volumes from his personal library. Among them was the 1887 edition of George T. Ladd's *Elements of Physiological Psychology*. On the blank pages in front of the title page are the following notes in Professor Royce's handwriting, which I think are not without some interest for psychology as it was in the early days.

INTRODUCTORY LECTURE ON PSYCHOLOGY

I. Object of Ps.: The study of the Mind.
   - *a.* General purpose of scient. study, & nature of man's interest in his fellows.
   - *b.* Early conceptions of mind.
   - *c.* Growth of physiolog. conceptions.
   - *d.* Problem of Physiolog. Ps.
     1. Empirical.
     2. Philosophical.

II. Mind: How known.
   - *a.* Difficulty of introspection.
   - *b.* Reason of difficulty in the social character of mental life.
   - *c.* Concrete introspection exemplified.
   - *d.* Sources of empir. knowl. of mind:
     1. Concrete introspection.
     2. Study of "human nature"; novels, etc.
     3. Physiolog. Ps.
     4. Abnormal mental life.
     5. Children.
     6. Sociological study.
     7. Comparative Psychol.

III. Definitions.
   - *a.* Mind and Mental Life.
   - *b.* Consciousness.
   - *c.* Sensation, Perception, Feeling, Intellect, Volition, as categories of mental facts. The "faculties."

I believe that the outline of this introductory lecture can be placed in time. On the opposite blank page appears the following:

Course of '89–'90.
Jan. Work. P. I, Ch. V, Par. 1–3, and 8–22.
P. II, Ch. III, Par. 1–7, and
Ch. IV, the whole
Ch. VI, Par. 1–16, 21–26, 28–30
Ch. VII, Par. 1–9, 13 ad fin.

The material of these references includes primarily the discussion of the sense organs, and the general discussion of the sensations experienced, qualitative, quantitative, spatial, and temporal.

SAMUEL W. FERNBERGER
University of Pennsylvania

Across the Secretary's Desk

Relations with Psychiatry

In late February a bill which would have brought psychotherapy completely into the legal domain of medical practice was introduced into the New York State legislature. The bill, designed as a modification of the New York medical practices act, would have defined medicine as the "diagnosis and treatment of all physical and mental conditions."

The bill was apparently aimed directly at clinical psychologists but it is clear that the inclusion of "mental conditions" in a medical practices act means severe restrictions on several other professions which now employ psychological techniques in serving human individuals. Such an inclusion also clearly means great difficulty for any court of law called upon to define, in the process of trying an individual accused of practicing medicine without a license, such terms as "treatment" and "mental condition."

The bill was introduced into the legislature without any prior knowledge on the part of psychologists. When they learned of the bill, New York psychologists, working through the Joint Council of New York State Psychologists on Legislation, protested vigorously. At one meeting, on March 3, Dr. Rollo May, Chairman of the Joint Council, spoke as follows: (*New York Times,* March 4, 1953)

" 'This bill, if passed,' he said 'would set the clock back one hundred years. . . . What is needed . . . is that people be helped to learn to live together harmoniously. If we simply continue emphasizing that man is a physical machine, we produce only more effective soldiers, and our civilization will indeed be threatened.

" 'The greatest harm in this bill is precisely that it makes this emphasis in stating that emotional and mental conditions are subordinate to medicine.'

"In a separate memorandum, Dr. May expressed these four points as representing the views of 2,200 psychologists in this state:

"1. 'Mental conditions' is a term that is impossible to define. A great part of the work of teachers, social workers and clergymen as well as psychologists deals with 'mental conditions,' as do intelligence tests, vocational tests, guidance and so on.

"2. The bill is administratively unfeasible since the definition encroaches on so many fields.

"3. The bill is an 'overstepping of the prerogatives' of medicine. Since Governor Dewey vetoed a bill in 1950 to license psychologists on the basis that the distinction between psychology and psychiatry could not be adequately defined, 'it is obviously inconsistent and illogical' that an amendment now offered proposes to define the mental field as entirely a branch of medicine.

"4. A commission should be set up to study 'licensing in the healing arts.' "

The American Psychiatric Association responded the next day through Dr. Wilfred Bloomberg, chairman of the Association's Committee on Public Education. The *New York Herald Tribune* of March 5 quoted Dr. Bloomberg as follows:

"The practice of psychotherapy is a province of medical practice. The training of other professional groups does not qualify them for the independent practice of psychotherapy or any other kind of medical treatment.

"In view of attempts to establish the practice of psychotherapy independent of medical practice, by various proposed laws which re-define the area of responsibilities in the field of health, we must reaffirm that these attempts to separate psychotherapy from the practice of medicine and from medical responsibility are contrary to good public policy.

"The American Psychiatric Association calls attention of its members to the fact that a physician who takes responsibility for the treatment of a patient assumes full responsibility, and, while he may utilize the services of other disciplines, he cannot relinquish to a non-physician his medical responsibility."

These New York developments were reported immediately by telegraph to the American Psychological Association Board of Directors who, on March 3, unanimously passed the following motion:

"Moved that Board of Directors of APA is opposed to legislation restricting to any one profession the application of psychological techniques and knowledge. Public welfare demands that such services be the joint responsibility of many profes-

sions, including psychology, medicine, education, the ministry, and social work, and should not be limited to any one of them."

On March 7 the *New York Herald Tribune* carried an editorial on the legislative situation. It said in part:

"The psychologists, especially, have a case. They asked the Legislature two years ago to license them, and they offered a supposedly model bill which had the enthusiastic support of the State Department of Education. The bill was enacted by both houses, but was vetoed by Governor Dewey because of what he deemed to be a serious conflict of opinion between the psychologists and the medically trained psychiatrists over the legitimate field of activity for psychologists.

"There are almost five thousand (sic) highly trained psychologists in this state, but there are also about twenty-five thousand quacks at large. The bill introduced in the present session by Sen. Wheeler Milmoe, R., of Canastota, would amend the educational law to require general medical training for persons who treat patients suffering from any 'mental condition.' This is an extremely exclusive amendment as far as psychology is concerned. It purports to crack down on the quacks, but it would restrict competently trained psychologists from treating individuals for mental disturbances. Conceivably it also could be extended to restrict clergymen, social workers and others whose normal activities are helpful in rehabilitating maladjusted individuals. The amendment is much too sweeping, and it should not be enacted.

"Is it not of significance to the Legislature that the psychologists and the medical profession, though at odds on the Milmoe bill, both favor the Metcalf proposal for a careful study of the whole situation? Does the Legislature continue to be turned against the Metcalf bill by the serious charge that it is designed only to block the chiropractic licensing measure? These proposals involve matters vital to the public, and the Legislature would do well to have them all studied before acting on them."

The bill died in Committee. In New York, then, a situation of intricate and potentially bitter interprofessional conflict has been temporarily averted. But the general problem giving rise to the New York State situation is by no means solved.

The *Journal of the American Medical Association* for December 27, 1952, published a report of the AMA Committee on Mental Health that said, in part:

"The Committee further recognizes that clinical psychologists may have need for standardization of their qualifications within their own field of endeavor for the purpose of preventing encroachment by those having insufficient education and training who now offer their services to the public. However, it is the impression of the Committee on Mental Health that the primary motivation of the clinical psychologists is to become recognized by law as qualified to enter the private practice of psychiatry under the guise of psychotherapists. Since the Committee is convinced that clinical psychologists cannot in any way be qualified by their training and experience to function independently as psychotherapists, it seems necessary that the American Medical Association adhere to a policy which defines the practice of psychotherapy as an integral part of the practice of medicine and therefore present a medical point of view in relation to any attempt at legal recognition of clinical psychologists. . . . The Committee on Mental Health reaffirms that the practice of psychotherapy is but one aspect of the total therapeutic armamentarium of a physician and therefore cannot be split off as an isolated technical skill divorced from the overall diagnostic and treatment procedures inherent in the practice of medicine. This affirmation in no way contradicts the recognition of the fact that other professional groups, such as ministers, lawyers, teachers, social workers, nurses, psychologists, vocational counselors, and other professional groups, now utilize psychological understanding and principles in the carrying out of their particular function. . . . It is deemed advisable that all medical practice acts include the treatment of illness by psychological methods. It is further recommended that the American Medical Association take active steps toward this end.

"The committee further recommends that the suggestions of the Gerty report relating to all present and future proposals for the certification or licensure of psychologists be carefully studied to determine whether they are in accord with the principles and recommendations here expressed.

"In view of the fact that the policy of the American Medical Association has always emphasized the best interest of the public welfare, it should be a matter of record that the Association stands pre-

pared to collaborate with all recognized professional groups in maintaining the highest standards."

This statement came as a surprise to our Committee on Relations with Psychiatry and as an apparent surprise to some members of the American Psychiatric Association's Committee on Clinical Psychology. At the time the statement was issued the two committees were doing their rational best to confront interprofessional problems constructively. There is some evidence that the AMA stand is embarrassing to many psychiatrists who are convinced that psychiatry and psychology can and must work in mature, amicable, and nonhierarchical collaboration if public welfare is to be served in the field of mental health.

That the AMA stand is by no means embarrassing to all psychiatrists, however, is illustrated by the February 1953 newsletter of the American Psychiatric Association stating that the Executive Committee of the Association "went on record that medical practice acts in the states should include a statement that the practice of medicine includes the diagnosis and treatment of all mental and physical ills."

There does not appear to be, at the moment, a concerted campaign on the part of either the AMA or the American Psychiatric Association to implement the recommendation that "mental conditions" or "mental ills" be written into medical practice acts. But the official positions are very clear. It seems a good possibility that there will be attempts in many states to include mental ills or mental conditions under medical hegemony.

What do psychologists think about the inclusion of mental conditions or mental ills in the medical practices acts? We have been deliberately slow in taking official stands on such a question. We have certain inhibitions about taking official action on anything in the absence of sound evidence, full discussion, and reasonable consensus among concerned members. There have been, however, two official actions of direct relevance for our relations with the medical profession. There is the March 3 motion of the Board of Directors. And there is the following motion, passed by the Council of Representatives in 1949:

"We are opposed to the practice of psychotherapy (not to include remedial teaching, vocational and educational counseling) by clinical psychologists that does not meet conditions of genuine collaboration with physicians most qualified to deal with the borderline problems which occur (e.g., differential diagnosis, intercurrent organic disease, psychosomatic problems, etc.)."

These statements make it clear that psychologists join with physicians in believing that psychotherapy should not be entirely divorced from somatic diagnosis and treatment. Psychologists also agree that psychological training does not qualify an individual to practice medicine, as presently defined. Psychologists will not agree that psychotherapy is a subordinate part of the practice of medicine. We agree that psychologists must concern themselves with standards of competence and of ethics, and we have taken steps to insure that psychologists who engage in independent practice meet high standards: we have adopted a provisional code of ethics, we have established a specialty board (the American Board of Examiners in Professional Psychology), and we are working through our Education and Training Board and other mechanisms to establish and create high and meaningful standards of training for psychologists.

Since psychology has an enforcible code of ethics and since there are adequate laws relating to fraud and damages, psychologists see no basis for the feeling that the practice of clinical psychology by competent individuals will be detrimental to public welfare. Psychologists are not likely to take kindly to any real or apparent steps on the part of any other profession to police or supervise professional activities of psychologists. Making psychology ancillary to medicine in the field of mental health will be seen as no more reasonable than making the psychology professor an assistant to the professor of physiology or of making the professor of theology ancillary to the professor of psychology. Few will be able to see how the establishment of professional or scientific hierarchies will contribute either to public welfare or to the advancement of knowledge.

At the operating level there seem to be few professional or jurisdictional conflicts between clinical psychologists and psychiatrists. When confronted with an actual job, the psychologist and psychiatrist react to the job as a job and to each other as individuals. When professional labels are applied, however, and when professional organizations adopt "party lines," there is conflict. Official stands are taken, battle stations are manned, and the common enemy—emotional problems of humanity—is somehow forgotten. To the outside observer, a conflict

between psychologists and psychiatrists makes no sense. It makes such nonsense, in fact, that one observer has suggested that the impending conflict be settled by requiring that the two executive officers of the two APA's meet at dawn—repeatedly, if necessary—and fight the matter out, leaving practicing psychiatrists and psychologists free to go about their proper work.

The objective observer would probably find that both psychologists and psychiatrists sometimes over-reach their training. He would also find that, when over-reaching is demonstrated, the professional peers of the transgressor—whether the peers be psychiatrists or psychologists—will judge him strictly. Certainly it is true that psychiatrists are vitally interested in the competence and ethicality of practicing psychiatrists. It is equally true that psychologists, with their traditional involvement in problems of selection, training, and validity, are vitally and intricately interested in the problem of what characteristics, what training and what behavior is conducive to good professional performance. The profession of clinical psychology is still much younger than that of medicine, of course. But there is considerable evidence that psychology is maturing—maturing rapidly. It is setting up standards, interiorizing ethical values, policing itself, exploring for its best ways of serving human individuals. The present question seems to be that of whether or not this youthful profession shall develop in accordance with its own conscience and its own intelligence, or be brought along with other professions under the parental discipline of the much older medical profession.

There undoubtedly are a number of self-appointed "psychologists" operating in the mental health field. Legitimate psychologists join heartily with psychiatrists in seeking ways to see that charlatans do not harm or gull the public. To many psychologists the sensible way to prevent untrammeled charlatanism is through state licensure or certification of adequately trained psychologists. In some states, such controls have been established. In other states attempts to establish legislation of this sort have been blocked, most often by medical opposition.

It may be that the recent actions of the American Medical Association and of the American Psychiatric Association have closed the door to further factual exploration and rational discussion. At least on the surface it looks as if psychologists now have only two alternatives: (*a*) to submit quietly to the medical profession or (*b*) to oppose openly and vigorously, in whatever ways they can, the move to establish medical hegemony over the field of mental health. To the thoughtful psychologist, neither alternative makes any sense.

To do nothing while "mental conditions" are made the exclusive concern of the physicians would represent to many not only an immorally weak submission to arbitrary authority but also compliance with a move that appears likely to decrease the amount of professional help available to those millions who have personal and emotional problems.

To wage a public fight, on the other hand, would be almost equally undesirable. It would be a sorry spectacle indeed to see two professional groups fighting, in the press, in the legislatures, and in the courts, about who has the right to help people with their psychological problems. Such a fight could set back both psychiatry and psychology perhaps more than any other development imaginable. Many observers agree that both psychiatrists and psychologists enjoy only an uneasy public acceptance, that there is a great deal of general underlying hostility to anyone who represents himself as knowing about the minds and motives of men. The current trend toward anti-intellectualism in the country at large makes it even more important that "mind doctors" commit themselves with great decency and maturity if they are to preserve their opportunity to practice their profession. A public argument, such as the one that began in New York, can do inestimable harm to both our professions and eventually to the public we attempt to serve.

Is the die irretrievably cast? Must psychologists and psychiatrists fight a fight that will, in the long run, harm both professions? Can these interprofessional problems again be opened to reasoned examination and reasonable discussion? We hope so. Thoughtful psychologists everywhere will probably want to discover ways to escape the dilemma onto which we have been thrown.

The informed and intelligent citizen, in viewing the whole problem, would probably conclude that no one is now in possession of sufficient evidence or sufficient wisdom to crystallize for all time the relations between psychiatrists and psychologists. The citizen would want hard evidence and reasoned logic upon which to base his conviction about how best to protect public welfare. He would have no respect for the "psychological viewpoint" or the

"medical viewpoint" per se, but would instead endorse the human viewpoint. We can best help whom with what sort of problem? How can the best possible help be given to the million or more Americans now in real need of some manner of psychotherapeutic assistance? What will be the implications for public welfare in twenty years if clinical psychology is made ancillary to medicine? Will it drastically reduce the number of professionally trained people available to the public? Will it increase the number of pseudo-professionals operating, in spite of laws, in the field of mental health? If there are not enough competent people to meet the public need, to whom will the public turn? What do clinical psychologists now do that is harmful to clients? What do they do that causes physicians concern? What professional people are now using what sort of psychotherapeutic techniques and with what results? How does anyone tell whether an individual is skilled and successful in applying psychological techniques? How many psychiatrists are skilled in psychotherapy as well as other approaches to mental disorders?

It still may be possible to reinsert the informed citizen—either through empathy or through more tangible means—into the present dispute. In the long run, it is his welfare that is at stake, for one out of ten of him will spend time in a mental institution and perhaps one out of five of him will have occasion to seek professional help with an emotional problem.

It should still be possible, both in national and local situations, to bring the objectively observing citizen back into the problem. If we could find ways to pool both the humanistic concerns and the intellectual resources of psychiatrists and psychologists, if we could bring ourselves to confront the perceptions of the informed citizen, we not only could obtain good evidence on the foregoing questions but could find joint and creative solutions—solutions demonstrably consistent with public welfare and with the genuine humanistic concerns of both psychiatrists and psychologists.

FILLMORE H. SANFORD

ADDENDUM

While the above material was on its way to the printer, the APA Central Office received word that Dr. D. Ewen Cameron, president of the American Psychiatric Association, had issued a public statement on March 17 that "the practice of psychotherapy is a province of medical practice." Dr. Cameron was articulating the sentiments of the Executive Committee of his Association. He goes on to say, "There is an ominous trend in proposed legislation in several states to 'license' persons other than physicians to treat mental conditions through psychotherapeutic techniques."

This statement received a limited coverage by the press. After thorough discussion among a number of psychologists in and out of Washington, the decision was reached that nothing could be gained by a precipitous reply at this time to Dr. Cameron's statement. It was the group feeling that psychologists, while standing ready to resist specific moves toward restrictive legislation, should make at least one further attempt to bring about rational discussion with psychiatrists on points of disagreement.

ADDENDUM II

On March 30 it appeared likely, as a result of recent conversations between the two APA's, that several officers of each Association would sit down soon, under a "cease fire" arrangement, and seek further for amicable and rational ways of settling the present points of disagreement between psychology and psychiatry.

Psychological Notes and News

Minnie L. Steckel, personnel director at Alabama College, died on December 1, 1952.

John L. Meadows, dean of students at Tennessee Polytechnic Institute, died of a heart attack on January 8, 1953.

Gustav Kafka, professor of philosophy and psychology at Julius-Maximilians University in Wurzburg, died February 12, 1953.

Clark University has announced the following new appointments in its department of psychology: Richard A. Lazarus of The Johns Hopkins University, to be associate professor of psychology as of September 1, 1953; Tamara Dembo, as associate professor of psychology as of February 1, 1953; and Theodore Leventhal, chief psychologist of the Worcester Youth Guidance Center, as instructor in psychology as of February 1, 1953. Dr. Dembo will collaborate with Drs. John E. Bell and Heinz Werner of the department on research into the early psychological development of cerebral palsied children. This research is supported by a two-year grant from the Association for the Aid of Crippled Children.

The **department of psychology at North Carolina State College** announces the following appointments to its staff: Elva Burgess on a temporary appointment as an assistant professor replacing Clyde Johnson who is on leave of absence, Allen Solem and Charles Kelley as assistant professors. Dr. Burgess completed her degree at the Pennsylvania State College. Dr. Solem comes from the University of Michigan and Mr. Kelley from Dunlap and Associates.

LeRoy H. Rook, formerly at the Psychological Services Center of the University of Oklahoma, is now staff psychologist at the State of Missouri State Hospital No. 1, Fulton, Missouri.

Dominick J. Lacovara, Captain, M. C., has been ordered to active duty in the U. S. Army and is now assistant chief, psychiatry and neurology, 4002d, ASU, U.S.A.H., Camp Chaffee, Arkansas. He was formerly associate psychiatrist and chief psychologist at Craig House, Beacon, New York.

Richard M. Rundquist, formerly of the counseling center at Stephens College, has taken a position as assistant professor of education and counselor at the Guidance Bureau of the University of Kansas. He succeeds **Lee E. Isaacson** who has taken a position as assistant professor of education at Purdue University.

Ernst G. Beier has accepted the position of associate professor of psychology with the department of psychology of the University of Utah. His work will be identified with the clinical training program established at the University of Utah, with particular responsibility associated with clinical research and practicum supervision. Dr. Beier has been assistant professor of psychology and head of the mental hygiene services at Syracuse University.

Albert K. Kurtz is on leave of absence from Pennsylvania State College and has been appointed interim professor of psychology at the University of Florida for the current semester.

Albert Eglash and **Irving Sigel,** formerly at Michigan State College, joined the staff of the Merrill-Palmer School, Detroit, in September 1952 as research psychologists. Dr. Eglash is with the Division of Older Childhood and Adolescence. Dr. Sigel will direct a study of "Adult Influences Used in Controlling Child Behavior and their Psychological Effects on the Child." The study is sponsored by a grant from the Social Research Foundation.

Ivan N. Mensh was appointed associate professor and head of medical psychology in the department of neuropsychiatry, Washington University School of Medicine at St. Louis, effective February 1, 1953. Senior staff members in medical psychology are Bettye M. Caldwell and Joseph D. Matarazzo; fellows for 1952–53 are Alicemarie Meyer of University of Texas and Ross R. Thomas of Northwestern University; and research appointments are held by Goldine C. Gleser, Evelyn P. Mason, Frank B. Strange, and Ann L. Brockway.

Jerome M. Schneck has resigned as psychiatric consultant to the Westchester County Department

of Health to devote full time to private practice of psychiatry in New York City. He has retained his position on the psychiatric faculty of the College of Medicine, State University of New York.

Robert G. Kaplan is now associated with the Reese Graves Personnel Service in San Diego, California. Reese Graves Personnel Service engages in personnel and management consultations and services in the San Diego area.

The research department of the **Bank Street College of Education** announces that, with the addition of several new staff members, the research staff now includes: Barbara Biber, director; Dorothy Dinnerstein, Edna Kaufman, Claudia Lewis, and Harvey Schrier, research associates; Sheila Emerson and Virginia Stern as research assistants; and Lawrence Epstein, Evelyn Feltenstein, Reuben Margolis, and Marvin Zuckerman as part-time research assistants.

Norma R. Metzner has accepted an appointment at the APA Central Office to work on Project B of the APA contract with the National Science Foundation having to do with the evaluation of psychology as a science.

Wesley S. Roeder has been appointed guidance and evaluation consultant to the California Test Bureau.

The **Director of the Institute for Advanced Study** has appointed an advisory committee on psychology, in anticipation of the possibility that, from time to time, psychologists may desire to spend a year or more working at the Institute. The members of the advisory committee are: E. G. Boring, Jerome Bruner, H. S. Langfeld, Paul E. Meehl, George A. Miller, Edward C. Tolman, and Ruth S. Tolman.

VA Department of Medicine and Surgery, Clinical Psychology Announcements

Benjamin Fabrikant, a graduate of the VA Training Program from the University of Buffalo, has been appointed to the staff at VA Hospital, Buffalo, New York.

Samuel Klugman, a graduate of the VA Training Program from the University of Pennsylvania, has been appointed to the staff at VA Hospital, Coatesville, Pennsylvania.

Robert G. Gibby, formerly Chief Clinical Psychologist, VA Mental Hygiene Clinic, Detroit, is now Chief, Clinical Psychology Training Unit, VA Regional Office, Detroit, Michigan.

Karl Pottharst has been designated Chief Clinical Psychologist of the VA Mental Hygiene Clinic, Detroit, Michigan.

Carolyn Pratt has resigned from the staff at VA Hospital, Indianapolis, Indiana.

Roy E. Buehler has transferred from VA Regional Office, Huntington, West Virginia, to VA Hospital, Perry Point, Maryland.

William Colley has transferred from VA Hospital, Seattle, Washington, to VA Regional Office, Huntington, West Virginia.

Stanford H. Simon listed under VAH Knoxville, Iowa, in the January roster is on duty at VA Hospital, Indianapolis, Indiana.

Martin J. Brennan is Chief Clinical Psychologist at VA Hospital, Tuscaloosa, Alabama.

Peter J. Napoli, VA Hospital, Montrose, has been detailed to serve as Acting Chief, Vocational Counseling Service, to organize the service and supervise the training program.

ABEPP Announcements

The American Board of Examiners in Professional Psychology, Inc. announces the scheduling of its fifth written examinations for the Fall of 1953. Examinations will be given simultaneously at several examining centers on November 12–13, 1953.

Each eligible candidate will be notified individually and will be sent a registration form for this examination.

The Board wishes to mention again its policy concerning examination privileges, which was announced originally in the May 1951 issue of this journal. An eligible candidate holding the PhD degree who is notified regarding his eligibility for two successive written examinations and who does not present himself for either of these examinations will have his candidacy set aside.

Further, the Board wishes to call to the attention of interested members of the profession its policy concerning the amount of postdoctoral experience required for filing application for the Board's diploma. A total of five years of acceptable, qualifying experience is necessary. However, candidacies received up to and including July 1, 1953, need present only *two* years of such experience obtained beyond the award of the doctoral

degree. Three years, of the total of five, may have occurred previous to the award of the doctoral degree. Beginning July 2, 1953, the amount of post-doctoral experience required will be increased from two to three years. Professional psychologists who consider themselves to be eligible are invited to make inquiry and to file application. Candidacies may be processed in time for admission to the 1953 written examinations.

Correspondence concerning application and eligibility for examination should be addressed to Dr. Noble H. Kelley, Secretary-Treasurer, American Board of Examiners in Professional Psychology, Department of Psychology, Southern Illinois University, Carbondale, Illinois.

In September 1953 the **psychology department of the University of Massachusetts** will start offering graduate training toward the doctor of philosophy degree as well as toward the master's degree. Members of the staff are: Robert S. Feldman, William F. Field, Albert E. Goss, Bernard Mausner, Claude C. Neet, William W. Saunders, Aaron J. Spector, and Theodore R. Vallance (on leave of absence). For information concerning courses and other details write to Dr. Claude C. Neet, Department of Psychology, University of Massachusetts, Amherst, Massachusetts.

At the **University of Michigan** the departments of psychology and education have organized a joint, two-year program of training for "School Psychological Diagnosticians." The program includes a one-semester internship and is aimed to prepare students for giving and interpreting individual mental tests in schools, measurement bureaus, and psychological service centers, where the clientele is primarily children. It satisfies the requirements of the State Department of Public Instruction for approval for psychological work in the reimbursable program for the mentally handicapped.

Announcements Regarding Graduate Training Facilities and Stipends

The **University of Denver** offers the MA degree and the PhD degree in psychology in the following areas: general and experimental, clinical, counseling, and a joint PhD program with the School of Education in educational psychology. In the last three years 78 Master's degrees and 12 PhD degrees have been awarded. Four graduate assistantships are available but are not open to new students. These pay $600 each for the academic year and are continued through the summer quarter for students who choose to remain during that quarter. For information write to: Dr. L. W. Miller, Chairman, Department of Psychology, University of Denver, Denver 10, Colorado.

The **University of Kansas** offers graduate programs leading to both the MA and PhD in the following fields: educational psychology, counseling, and tests and measurements. For information write to J. H. Nelson, Dean, Graduate School, University of Kansas, Lawrence, Kansas.

University of Nebraska, Department of Educational Psychology and Measurements. MAT given as part of qualifying examination, but GRE accepted in its place. No scholarships. Four research assistantships; 10 hours' work; stipend, $600 ex. Three teaching assistantships; half-time work; stipend, $1,200. New students eligible. Apply by April 1 to Dr. D. A. Worcester, Chairman, Dept. of Educ. Psych. and Measurements. *Available to graduate students in either department:* Four assistantships (psychometry, research, counseling, reading and study laboratory); 15 hours' work; stipend, $600–750 ex. Apply to Dr. Arthur A. Hitchcock, Director, Junior Division and Counseling Service.

The **Post-Doctoral Institutes** sponsored annually by APA Division 12 will be held this year from August 26 through September 2 at Kent State University, Kent, Ohio. Located thirty-five miles southeast of Cleveland, Kent State will provide appropriate classroom and lounge facilities and inexpensive accommodations for families as well as for individuals. Local transportation will make the move from Kent to Cleveland for the APA convention an easy matter. All members of Divisions 12 and 17 who hold the doctorate or who have been certified by ABEPP are eligible to attend. Enrollment for each course is limited to twelve. As in previous years, the tuition will be $50.00.

Course offerings and instructors are as follows:

Group Psychotherapy and Dynamics—Dr. S. R. Slavson
Supervision in Integrative Psychotherapy—Dr. O. H. Mowrer (enrollment restricted to those who have taken prior didactic work with Dr. Mowrer)
Learning Theory in Relation to Psychopathology and Psychotherapy—Dr. E. J. Shoben, Jr.
Techniques and Methods in Clinical Research—Dr. Joseph Zubin

Present-Day Problems in Psychological Therapy—Dr. Rollo May

Applications for enrollment *must* be filed by June 1. Requests for application forms and further information should be addressed to Dr. Goldie Ruth Kaback, Chairman, Committee on Post-Doctoral Institutes, College of the City of New York, 139th St. and Convent Avenue, New York, New York.

The department of psychology, University of Chicago, announces **two work shop seminars in the Rorschach test**, July 6 to 10 inclusive, and July 13 to 17, 1953 inclusive, to be conducted by S. J. Beck. "Basic processes" will be the topic for the first week; "Indications for treatment," the second week. Scoring of test responses, significance of the response categories separately, their effects on one another in shaping the whole personality, technique and controls in obtaining a test record, and introduction to interpretation will be included in the basic processes seminar. In demonstrating indications for treatment, a series of cases will be presented in which the symptoms range from the ego-alien to the ego-syntonic. The questions for each patient, answers for which are sought in the test, are: at what level is this person to be treated? how much? what specific assets in him can be activated? The clinical pictures will vary from the milder personality disorders to questions of schizophrenia. Ages of patients will range from childhood into adult years. Admission to the advanced seminar is limited to psychologists and psychiatrists in clinical positions or practice. The basic processes may be taken by students at, or ready for, the intern level. Each seminar will meet at the University, Monday through Friday, two sessions each day, two hours each session. For information as to admission, fees, or credit arrangement when desired, write to the Executive Secretary, Department of Psychology, University of Chicago, Chicago 37, Illinois.

The **Workshop in Projective Methods** inaugurated in 1951 at the New School for Social Research, in New York, under the direction of Camilla Kemple and Florence R. Miale, will be held again this summer. There will be courses in introductory and advanced Rorschach, Figure Drawing Analysis, Sentence Completion, Handwriting Analysis; and an advanced Seminar in the Integration of Projective Methods. The staff will include, in addition to the directors, Karen Machover, Elizabeth Anderson, James Q. Holsopple, Richard Benjamin, Ruth Lesser, and Irving Shulman. The dates are from June 8 through July 10 inclusive. The courses receive graduate credit from the New School and may be taken under the G. I. Bill. Inquiries may be addressed to Richard Benjamin, 34 West 75th Street, New York 23, New York.

O. Hobart Mowrer, research professor of psychology at the University of Illinois, will conduct a **workshop on personality theory and psychotherapy** from June 1 through June 5 in the Graduate Division of Psychology of Adelphi College, Garden City, Long Island. Admission will be limited to fifteen students and tuition fee will be $50. Applications for admission, which will be limited to advanced doctoral students and practicing psychologists, should be addressed to Dr. Gordon F. Derner, Director, Clinical Psychology Training Program, Adelphi College, Garden City, Long Island.

The University of Minnesota Summer Session will present a **Family Life Workshop** the summer of 1953, through the cooperation of several graduate departments. The purpose of the workshop is to offer a synthesis of advanced practice at the graduate level for those now professionally engaged in family life education—teachers, marriage counselors, social workers, public health workers, research personnel and others in the family life field. The content of the workshop is being organized around four study areas—teaching, marriage counseling, research and evaluation, and community education and planning. The workshop dates are July 6–24 inclusive. The University offers four quarter credits for those who wish graduate credit. For further information write Mrs. Dorothy T. Dyer, Chairman, Family Life Program, 204 T.N.M., University of Minnesota, Minneapolis 14, Minnesota.

"The Counselor as a Person" will be the theme of the 1953 **Chico State College Counseling Workshop** to be held on the Chico State College Campus from June 15, through July 10, 1953. Among those who will present lectures and conduct discussion groups and classes are Donald E. Super, Clarence A. Mahler, Reverend C. Vin White, Hugh M. Bell, Margaret Wells, Merville C. Shaw, William Connor, and Arthur J. Manske. In addition to lectures and discussion groups, courses will be

offered in "Techniques of Interviewing," "Use of Tests in Personal Assessment," "Culture and Personality Growth," "Physiological Factors and Personality Development" and "Counselor's Personality and the Counseling Relationship." The Advanced Workshop will provide a laboratory for practice in counseling. The Basic Workshop will emphasize the courses given above. For information write to: Co-ordinator, Counseling Workshop, Chico State College, Chico, California.

Applications are being accepted for **postdoctoral training fellowships in clinical psychology** at the Menninger Foundation for the two-year period beginning July 1, 1953. The fellowship in general clinical psychology is designed to give competent clinical psychologists an opportunity to receive intensive advanced training in diagnostic testing, psychotherapy, research and child psychology, in order that they might accelerate their development into highly competent clinicians. The fellowship in clinical psychological research is offered tentatively, pending confirmation of support for this program. The training will have as its objective the development of those assets which would contribute to the research leadership potential of the Fellow as well as to his competence as a skillful and imaginative clinical researcher. Those applicants will be favored whose interests lie in teaching and research, and who may be expected eventually to pass on to new trainees some of the benefits they derive from this training experience. The program is supported in large part by the United States Public Health Service. Stipends totaling $4,100 will be provided in the first year, and $4,300 the second year. A PhD in psychology with a minimum of one year of supervised clinical experience is required. For information or application forms, write Martin Mayman, Director of Psychological Training, Menninger Foundation, Topeka, Kansas. Applications should be submitted no later than May 1.

A new publication, the *Journal of Medical Psychology,* is being considered, with first publication as the January 1954 issue. Medical psychology, a relatively new and rapidly expanding field, is considered to include relationships of psychology to psychosomatic and internal medicine, medical education, surgery, physical medicine, gerontology, pediatrics, and other medical specialties, as well as to psychiatry and neurology. Research reports will be stressed but articles concerned with educational matters and the functioning of psychologists in new or different settings will also be included. Reactions to this proposal will be appreciated by the editor, Robert I. Watson, of Northwestern University.

The **Proceedings of the Fourth International Congress on Mental Health,** held in Mexico City, December 1951, have now been published in English and Spanish. The English edition is now available from the Columbia University Press, 2960 Broadway, New York 27, N. Y., for $5.00 per copy.

Publication of the **Proceedings of the Second Research Conference on Psychosurgery** has been announced by the National Institute of Mental Health, Public Health Service, Federal Security Agency. Single copies (PHS Publication No. 156) are available free to professional personnel by addressing the National Institute of Mental Health, Bethesda 14, Maryland.

The Institute for Research in Human Relations, 2224 Locust Street, Philadelphia 3, Pa., would like to purchase one copy of each of the volumes listed below of the *Army Air Forces Aviation Psychology Program Research Reports:* Volumes 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15.

Psychologists doing **research on stress and the adaptive hormones** have been asked to send reprints of their articles, for use in the preparation of the Annual Reports on Stress, to Dr. Hans Selye, Institute of Experimental Medicine and Surgery, Université de Montréal, Montréal, Canada.

The **Western Psychological Association** will hold its thirty-third annual meeting at the University of Washington, Seattle, on June 18–20, 1953. Members of the Association at the University, under the chairmanship of Allan Katcher, are acting as committee on local arrangements. Officers for the current year are: Ruth S. Tolman, president; Neil Warren, vice-president; Richard Kilby, secretary; Rheem Jarrett, treasurer.

New officers of the **Ontario Psychological Association** are: G. H. Turner, president; H. O. Steer, past president; R. W. Ross, vice-president; E. T. Alderdice, secretary-treasurer; J. M. Blackburn, F. S. Dunlop, and E. M. Stapleford, directors.

The present officers of the **American Association on Mental Deficiency** are: Bertha M. Luckey, president; Arthur T. Hopwood, president-elect; Neil A. Dayton, secretary-treasurer; Lloyd N. Yepson, William W. Fox, Chris J. DeProspo, Herman Yannet, Thomas L. McCulloch, and Frances M. Coakley, vice-presidents. Two categories of membership are in effect, Associate and Active. Current fee is $6.00 per annum for Associate Membership; one year's experience in field is necessary. The fee for Active Membership is $8.00 per annum; three years of experience necessary. The fee includes subscription for the *American Journal of Mental Deficiency*, the A.A.M.D. *News*, and the Official Directory of Members. Applications and further information may be had from Neil A. Dayton, M.D., American Association on Mental Deficiency, P. O. Box 96, Willimantic, Connecticut.

The **Gerontological Society** will hold its annual meeting in the Mark Hopkins Hotel, San Francisco, on August 25, 26, and 27, 1953. Harold E. Jones is in charge of local arrangements for the convention.

CURRENT RESEARCH

The research program of the Bank Street College of Education includes the following projects under the general direction of Barbara Biber:

1. The selection of psychologically qualified teachers:

a. One group of projects, supported in part by the United States Public Health Service, utilizes a projective technique designed to measure teaching-related personality characteristics. The study concerns the interrelationships among three sets of data: (1) responses to the projective tests obtained at time of admission to teacher-training; (2) evaluation of the students during the training year, and (3) intensive observations of on-the-job teaching performance.

b. A second study, supported by the Citizens' Committee on Children of New York City and conducted with the cooperation of the New York City Board of Education, involves the relations between teachers' responses to a number of techniques measuring personality attributes and their subsequent performance as teachers on-the-job.

2. A preliminary, descriptive study of young (nursery age) children's responses to stories of varying emotional content.

3. A descriptive analysis of procedures used at the Bank Street College for the job-related guidance of graduate teacher-trainees.

4. An additional project, still in the planning stages, will be concerned with the effects of differing kinds of school experience on children in the middle years, 9–11. This study will involve an assessment of: the nature of contrasting school atmospheres, the intellectual and emotional functioning of the children, the attitudes and ideology of parents and teachers with respect to methods and goals of child-rearing and education.

The following projects are being sponsored by Special Devices Center, Long Island, New York:

1. The Relationship of Primary Mental Abilities to Learning from Instructional Films (Radlow)

2. An Investigation of the Selectivity of Perception of Mental Health Films by Normal and Deviate Groups with Respect to Learning, Identification and Misperception (E. Stein)

3. Learning and Retention of English-Russian Vocabulary under Different Conditions of Motion Picture Presentation (Kale)

4. Sex, Age and Iconicity as Factors Influencing Projection onto Motion Picture Protagonists (McIntyre)

5. The Development of a Film Evaluation Form for Use by a Trained Rater Panel (Stover)

6. The Application of Sound Motion Pictures as a Means of Changing Attitudes toward Foods (Scollon, McIntyre and Guthrie)

7. The Evaluation of Three Army Training Films (Greenhill, Stein and VanderMeer)

8. The Relative Effectiveness of Films and Kinescopes (Hurst)

9. The Relative Effectiveness in Charts, Mock-ups and Cutaways in Teaching Nomenclature and Function of the 40mm Anti-Aircraft Gun and Mark 13 Type Torpedo (Torkelson)

10. The Production and Testing of Experimental Film Loops on the M–1 Rifle (McCoy)

11. A Methodological Study of the Application of Motion Pictures to Billet Analysis (Instructional Film Research Program Staff).

The following project is sponsored by the Adjutant General's Office:

12. The Development of a Motion Picture Test of Tank Mechanic Proficiency (Instructional Film Research Program Staff).

Convention Calendar

American Psychological Association: September 4–9, 1953; Cleveland, Ohio
For information write to:
Dr. Fillmore H. Sanford
1333 Sixteenth Street N. W.
Washington 6, D. C.

Florida Psychological Association: April 23–25, 1953; Miami, Florida
For information write to:
Dr. Theron Alexander
Department of Psychology
Florida State University
Tallahassee, Florida

Eastern Psychological Association: April 24–25, 1953; Boston, Massachusetts
For information write to:
Dr. G. Gorham Lane
Department of Psychology
University of Delaware
Newark, Delaware

West Virginia Psychological Association: April 24–25, 1953; Charleston, W. Va.
For information write to:
Dr. Frieda K. Merry,
Morris Harvey College
Charleston, West Virginia

American Association for Cleft Palate Rehabilitation: April 27–28, 1953; Atlanta, Georgia
For information write to:
Dr. Willard T. Hunnicutt
302 Medical Arts Building
Atlanta, Georgia

Midwestern Psychological Association: May 1–2, 1953; Chicago, Illinois
For information write to:
Dr. Lee J. Cronbach
Bureau of Research and Service
University of Illinois
1007½ South Wright Street
Champaign, Illinois

American Society of Group Psychotherapy and Psychodrama: May 4–5, 1953; Los Angeles, California
For information write to:
Dr. E. F. Borgatta
Laboratory of Social Relations
Harvard University
Cambridge 38, Massachusetts

American Psychiatric Association: May 4–9, 1953; Los Angeles, California
For information write to:
Dr. Cullen Ward Irish
1930 Wiltshire Boulevard
Los Angeles 5, California

Acoustical Society of America: May 7–9, 1953; Philadelphia, Pennsylvania
For information write to:
Dr. Harry F. Olson
RCA Laboratories
Princeton, New Jersey

California State Psychological Association: May 9, 1953; Los Angeles, California
For information write to:
Dr. James F. T. Bugental
Department of Psychology
University of California
Los Angeles 24, California

Pennsylvania Psychological Association: May 9, 1953; Harrisburg, Pennsylvania
For information write to:
Dr. William U. Snyder
Department of Psychology
Pennsylvania State College
State College, Pennsylvania

AERO Medical Association: May 11–13, 1953; Los Angeles, California
For information write to:
Dr. T. H. Sutherland, Secretary-Treasurer
P. O. Box 26
Marion, Ohio

American Association on Mental Deficiency: May 12–16, 1953; Los Angeles, California
For information write to:
Dr. Neil A. Dayton
P. O. Box 96
Willimantic, Connecticut

Canadian Psychological Association: May 28–30, 1953; Kingston, Ontario, Canada
For information write to:
Dr. G. A. Ferguson, Secretary-Treasurer
3544 Peel Street
Montreal, P. Q., Canada

American Psychopathological Association: June 5–6, 1953; New York City
For information write to:
Dr. Donald M. Hamilton
121 Westchester Avenue
White Plains, New York

American Neurological Association: June 15–17, 1953; Atlantic City, New Jersey
For information write to:
Dr. H. Houston Merritt
710 West 168th Street
New York 32, New York

Western Psychological Association: June 18–20, 1953; Seattle, Washington
For information write to:
Dr. Richard Kilby
Department of Psychology
San Jose State College
San Jose, California

Association for Physical and Mental Rehabilitation: July 20–24, 1953; Washington, D. C.
For information write to:
Dr. John Eisele Davis
3423 S. Utah Street
Arlington, Virginia

Association Internationale de Psychotechnique: July 27–August 1, 1953; Paris
For information write to:
Pr. R. Bonnardel
41, rue Gay-Lussac
Paris 5e, France

International Sociological Association: July 27–August 4, 1953; Liege
For information write to:
Mr. Erik Rinde
Grev Wedels pl. 4
Oslo, Norway

Gerontological Society: August 25–27, 1953; San Francisco, California
For information write to:
Dr. Harold E. Jones
Institute for Child Welfare
University of California
Berkeley 4, California

Society for the Study of Social Problems: August 29–September 1, 1953; Berkeley, California
For information write to:
Professor Byron L. Fox, Secretary
Society for the Study of Social Problems
Syracuse University
Syracuse, New York

American Sociological Society: August 30-September 1, 1953; Berkeley, California
For information write to:
American Sociological Society
New York University
Washington Square
New York 3, New York

New G & S Books for the Psychologist

Gottlober: UNDERSTANDING STUTTERING

By A. B. GOTTLOBER, Ph.D., *Director, Los Angeles Speech Correction Clinic*

Dr. Gottlober provides a sound psychological basis for understanding stuttering. As an outstanding speech correctionist, he also details modern advances in therapy for professional workers who must treat the disorder. For stutterers themselves he explains the nature, causes and treatment of their affliction, and at the same time gives insight to their families and teachers. *284 pp., $5.50*

Rosen: DIRECT ANALYSIS

By JOHN N. ROSEN, M.D., *New York City*

This first full-scale and unified presentation of Rosen's techniques of psychotherapy explains the radical innovations, inventions and departures from ordinary psychoanalytic procedures which his methods have required. An unusual and outspoken presentation, it clearly shows how the mind of the psychotic can be understood, and how direct or transference interpretations on the basis of this understanding are possible. *192 pp., $3.75*

Oberndorf: HISTORY OF PSYCHOANALYSIS IN AMERICA

By CLARENCE P. OBERNDORF, M.D., *Clinical Professor of Psychiatry, Columbia University*

For the first time, the development of psychoanalysis in the United States is traced in broad, comprehensive and correlative terms—from pre-Freudian thought and anticipatory analytic thinking, through its early introduction into this country, subsequent growth and elaboration, up to present status. Here is thus not only an important overview, but invaluable background for psychologists, psychiatrists, candidates in training and psychiatric social workers. (*May 1953*) *about 300 pp., about $5.00*

Halpern: A CLINICAL APPROACH TO CHILDREN'S RORSCHACHS

By FLORENCE HALPERN, Ph.D., *New York University College of Medicine*

Clarifies various types of responses in growing children. (*April 1953*) *about 220 pp., about $5.00*

Phillips, Smith: RORSCHACH INTERPRETATION

By LESLIE PHILLIPS, Ph.D., *Associate Professor of Psychology, Clark University, and* JOSEPH G. SMITH, Ph.D., *Commission on Human Resources and Advanced Training*

A practical, detailed reference on advanced technique. (*April 1953*) *about 400 pp., about $8.75*

Sargent: THE INSIGHT TEST

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The Professional Journal of the American Psychological Association, Inc.

Volume 8 May, 1953 Number 5

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GENERAL INFORMATION: SIXTY-FIRST ANNUAL CONVENTION OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

Cleveland, Ohio, September 4 to 9, 1953

ERWIN K. TAYLOR, *APA Convention Manager*

THIS announcement provides general information about the 1953 APA Annual Convention. A hotel reservation form and an advance registration form are included in this issue (pp. 219 and 220). A Call for Papers was announced by the APA Convention Program Committee in the February 1953 *American Psychologist*. For all details concerning papers, symposia, and scheduling of meetings, see the February issue.

Please note that since the publication of the February issue, it has been necessary to change the location of the convention to Cleveland, Ohio. Western Reserve University will be host institution. For further details on this point see the April *American Psychologist*.

The Local Arrangements Committee consists of the Convention Manager and a number of subcommittee chairmen who will assist in the handling of various details of the Convention. Members interested in matters handled by the subcommittees listed below are requested to communicate directly with the appropriate chairman. On matters not covered by these subcommittees, members should write to Erwin K. Taylor, Convention Manager, Personnel Research Institute, Western Reserve University, Cleveland 6, Ohio.

Time and Place of Meetings: Friday, September 4, through Wednesday, September 9, 1953 in Cleveland, Ohio. Meetings will be held in several centrally located hotels and the Cleveland College Building of Western Reserve University. The Program will designate the location of each meeting. Cleveland will be on Eastern Daylight Saving Time.

Headquarters: Cleveland Hotel, Public Square. However, the Registration Desk will be located on the first floor of the Cleveland College Building.

Hotel Reservations: The hotel reservation form is printed on page 219 of this issue. A list of those hotels which have agreed to reserve rooms for members of the APA is shown on page 219. Members expecting to attend the convention must secure their own room reservations by filling out the form and sending it to the APA Housing Office. Information as to types of rooms available and approximate costs are shown. Additional forms may be obtained from the APA Central Office. In order to be assured of hotel space, it is strongly urged that hotel accommodations be applied for as soon as possible; since the convention takes place during the Labor Day Holiday, the city will be crowded with tourists and hotel rooms will be scarce. Reservations will be confirmed *after July 1, 1953*.

Registration: To save time and avoid inconvenience upon arrival, members are urged to use the advance registration blank on page 220 of this issue. All members should call at the convention registration desk at Cleveland College (after checking in at their hotels) to complete their registration or to pick up convention badges if they have registered in advance. The registration desk will open at noon Thursday, September 3. Registration activities will be under the supervision of William E. Kendall, Chesapeake and Ohio Railroad, Cleveland, Ohio.

Directory of Members: Leonard Ronis, Cleveland Transit System, will be in charge of maintaining a directory of members registered at the convention. The data from the member's registration form will be used to provide the necessary index of registrants. This directory will be located in the Red Room on the Mezzanine Floor of the Cleveland Hotel. A mailbox and bulletin board will also be located nearby.

Special Dinners and Luncheons: Dinners and luncheons which are to appear in the official program must be requested through Launor F. Carter, Chairman, Convention Program Committee, AFF HRU No. 2, P. O. Box 446, Fort Ord, California, before May 8, 1953. Arrangements for dinners and luncheons which are not to appear in the pro-

gram will be made directly by Gladys M. Friedman, Cleveland Receiving Hospital, 3395 Scranton Road, S. W., Cleveland 9, Ohio. Requests for such luncheons and dinners should be submitted as early as possible.

It is estimated that lunches will cost at least $2.00 per person, plus 10 per cent for gratuities, plus 3 per cent Ohio sales tax, and dinners at least $3.00 per person, plus 10 per cent for gratuities, plus 3 per cent Ohio sales tax. Tickets will be sold at the information desk in the Red Room of the Cleveland Hotel. Tickets for luncheons must be purchased no later than the evening before the day on which the luncheon is held and not later than 2 P.M. of the day the dinner is scheduled.

Exhibits: Space for commercial exhibits will be provided in the Red Room of the Cleveland Hotel. For information as to facilities, costs, arrangements, etc., please write to Richard W. Wallen, Department of Psychology, Western Reserve University, Cleveland 6, Ohio.

Information Desk: An information desk will be maintained in the Red Room of the Cleveland Hotel under the direction of W. Roland Cook, Department of Psychology, Western Reserve University. In addition to convention information, the information desk will provide schedules of eating places, local points of interest, and recreational facilities.

Arrangements for Care of Children: Members interested in securing baby sitters during the Convention should write to Mrs. John A. Le Bedoff, Personnel and Placement Service, Western Reserve University, Cleveland 6, Ohio, for college students who may be available on an hourly basis.

Publicity: A. W. Quattrochi, University News Bureau, Western Reserve University, Cleveland 6, Ohio, will coordinate publicity activities of the convention. A pressroom will be maintained in Parlors 1 and 3 of the Cleveland Hotel.

Projectors, etc.: Charles Porter, Department of Psychology, Western Reserve University, Cleveland 6, Ohio, will be in charge of projection equipment. While every effort will be made to supply appropriate equipment, authors of papers are urged to substitute mimeographed tables and charts for slides wherever possible.

Other Groups and Organizations Meeting at the Same Time as the APA: Joel T. Campbell, Personnel Research Institute, Cleveland 6, Ohio, will be in charge of making arrangements for such groups. Officers of these groups should contact Dr. Campbell as far in advance of the actual meetings as possible, stating their needs. Groups desiring to hold paper-sessions or symposia should send their requests to a division program chairman or to the APA Program Committee chairman. Space will be provided if it is available after all APA meetings have been scheduled.

Parking: Daytime parking in downtown Cleveland is a difficult proposition. Nearby commercial garages and hotel-associated garages charge about $1.50 for a full-day parking and $1.00 for all night parking. Free municipal parking is abundantly available in fringe areas. Inexpensive busses shuttle frequently between these lots, the Public Square, and downtown Cleveland Hotel. Traffic during the morning and evening rush hours is congested. Public transportation and taxi service are relatively expensive but available.

DEADLINES

May 8—For receipt of requests for business meetings of divisions, boards, etc. by Launor F. Carter, Chairman, APA Program Committee.

May 8—For receipt of requests for special meetings, luncheons, dinners, etc. by Launor F. Carter, Chairman, APA Program Committee.

May 8—For receipt of requests for preconvention sessions by Launor F. Carter, Chairman, APA Program Committee.

August 15—For receipt of room reservations by the APA Housing Bureau, 511 Terminal Tower, Cleveland 13, Ohio.

A THEORY OF VOCATIONAL DEVELOPMENT[1]

DONALD E. SUPER

Teachers College, Columbia University

TWO and one-half years ago a colleague of mine at Columbia, Dr. Eli Ginzberg, an economist, shocked and even unintentionally annoyed many members of the National Vocational Guidance Association by stating, at the annual convention, that vocational counselors attempt to counsel concerning vocational choice without any theory as to how vocational choices are made. A year later Dr. Ginzberg published his monograph on *Occupational Choice,* in which he stated:

> Vocational counselors are busy practitioners anxious to improve their counseling techniques . . . the research-minded among them devote what time they can to devising better techniques. They are not theoreticians working on the problem of how individuals make their occupational choices, for, though they have no bias against theory, they have little time to invest in developing one (10, p. 7).

Ginzberg continues, apropos of the fields of psychology and economics:

> . . . there are good reasons why the problem [of how occupational choices are made] has not been a focus of investigation for psychology or economics. . . . The process has roots in the interplay of the individual and reality, and this field is only now beginning to be included in the boundaries of psychological inquiry. The obverse formulation applies to economics, which as a discipline concentrates on a detailed analysis of reality forces and satisfies itself with a few simplified assumptions about individual behavior (10, p. 7).

These conclusions were based partly on a review of the research literature which I did at his request, and partly on a number of discussions in which he, his research team, and I participated. Consequently, I have a feeling of responsibility, not for the conclusions which he drew, but for drawing my own conclusions and for sharing them with my colleagues in psychology and guidance.

Basis of Ginzberg's criticisms. It may help to point out that Ginzberg's conclusions were based on a review of the research literature which was designed to provide answers to specific questions asked by his research team in order to help them plan their own research project. What synthesizing of results I did was undertaken to answer these questions. I did not attempt to answer the question "What theories underlie the principles of vocational guidance now generally accepted by practitioners?"

But I do agree with his analysis of the situation with regard to theory construction: we have done relatively little of it, and for the reasons he has suggested. However, this does not mean that we have operated without theory. It is the principal purpose of this paper to set forth a theory of vocational development, a theory inherent in and emergent from the research and philosophy of psychologists and counselors during the past two decades. But first I should like, as a help in formulating a more adequate theory, briefly to present the theory of occupational choice put forth by Ginzberg and his associates, to show how each of its elements had already been set forth by psychologists doing research in this field, and to point out some of its limitations.

THE GINZBERG THEORY

As Ginzberg, Ginsburg, Axelrod, and Herma summarize their theory of occupational choice, it contains four elements:

1. *Occupational choice is a developmental process which typically takes place over a period of some ten years.* This theory of Ginzberg's, it should be noted, is one of the points made by the official statement of the *Principles and Practices of Vocational Guidance* (33), first formulated by the National Vocational Guidance Association 25 years ago; it is a point stressed by Kitson in his *Psychology of Vocational Adjustment* (14), published in 1925; and, in 1942, in my own *Dynamics of Vocational Adjustment* (28) several pages are devoted to a discussion of the fact that "choosing an occupation . . . is a process which . . . may go on over a long period."

2. *The process is largely irreversible:* experience

[1] Presidential address at the annual meeting of the Division of Counseling and Guidance, American Psychological Association, Washington, D. C., September 1, 1952.

cannot be undone, for it results in investments of time, of money, and of ego; it produces changes in the individual. This second theory of Ginzberg's is clearly implied in Charlotte Buhler's 20-year-old theory of life stages (5), in Lehman and Witty's equally old studies of play interests (15), in Pressey, Janney, and Kuhlen's 13-year-old discussion of adolescent and adult development (20), and in my own 10-year-old text on vocational adjustment (28).

3. *The process of occupational choice ends in a compromise between interests, capacities, values, and opportunities.* This third theory of Ginzberg's is well illustrated in the practices of individual diagnosis developed by the Minnesota Employment Stabilization Research Institute 20 years ago and described by Paterson and Darley (19); it was further demonstrated and described by the Adjustment Service experiment 17 years ago (2); and it is basic to presentations of the use of diagnostic techniques in texts such as Bingham's (3) and mine (29), both of which appeared before the completion of Ginzberg's study. In fact, Frank Parsons (18), in 1909, discussed vocational counseling as a process of helping the individual to study both himself and possible occupational opportunities, and to work out a compromise between his abilities, interests, and opportunities. He called this last process "true reasoning."

4. Ginzberg's final theoretical formulation is that *there are three periods of occupational choice:* the period of *fantasy* choice, governed largely by the wish to be an adult; the period of *tentative* choices beginning at about age 11 and determined largely by interests, then by capacities, and then by values; and the period of *realistic* choices, beginning at about age 17, in which exploratory, crystallization, and specification phases succeed each other. Those who are acquainted with Lehman and Witty's early research in the change of interest with age (15), with Strong's more searching work (25) in the same area, with Sisson's research in the increasing realism of choice with increasing age (23), with Charlotte Buhler's research in life stages (5), and with the use made of these data by Pressey (20) or by me (28), will find these three choice periods familiar. The special contribution of Ginzberg and his associates is the postulation of the successive dominance of interests, capacities, and values as determinants of choice before reality begins to play a major role.

It is easy, and perhaps even rather petty, thus to take a theoretical contribution and demonstrate its ancestry, showing that there is nothing particularly original about it. This is, undoubtedly, the normal reaction to claims of originality. But originality is more generally the result of a rearrangement of the old than the actual creation of something new: the rearrangement is original because it brings out details or relationships which have been missed or points up new applications. Ginzberg's theory is indeed an important contribution: this seems clear to me, at least, as I recollect the struggle I had in writing parts of my *Dynamics of Vocational Adjustment* (a struggle which resulted from the lack of a theoretical structure and from inadequate research), and as I work on its revision in the light, among other things, of Ginzberg's theoretical formulation and the thinking which it has stimulated. I have used this critical approach to Ginzberg's work in order to demonstrate that we have not entirely lacked a theoretical basis for our work in vocational guidance, and to show that the elements of theory on which we have based our practice have been sound, at least in that they have foreshadowed the elements which one group of theorists used when they went about constructing a theory of occupational choice.

Limitations of Ginzberg's Theory

But this is not the whole story. Ginzberg's theory is likely to be harmful because of its limitations, limitations other than those of research design and numbers in his basic study.

First, it does not build adequately on previous work: for example, the extensive literature on the nature, development, and predictive value of inventoried interests is rather lightly dismissed.

Second, "choice" is defined as preference rather than as entry or some other implementation of choice, and hence means different things at different age levels. To the 14-year-old it means nothing more than preference, because at that age the need for realism is minimized by the fact that the preference does not need to be acted upon until the remote future. To the 21-year-old student of engineering, on the other hand, "choice" means a preference which has already been acted upon in entering engineering school, although the final action will come only with graduation and entry into a job. No wonder that reality plays a larger part

in choice at age 21, when, unlike choice at age 14, it is by definition a reality-tested choice!

A third defect in Ginzberg's theory emerges from these different meanings of the term "choice" at different ages: it is the falseness of the distinction between "choice" and "adjustment" which he and his research team make. The very fact that choice is a continuous process going on over a period of time, a process rather far removed from reality in early youth but involving reality in increasing degrees with increasing age, should make it clear that there is no sharp distinction between choice and adjustment. Instead, they blend in adolescence, with now the need to make a choice and now the need to make an adjustment predominating in the occupational or life situation.

Finally, a fourth limitation in the work of the Ginzberg team lies in the fact that, although they set out to study the process of occupational choice, and although they properly concluded that it is one of compromise between interests, capacities, values, and opportunities, they did not study or describe the compromise process. Surely this is the crux of the problem of occupational choice and adjustment: the nature of the compromise between self and reality, the degree to which and the conditions under which one yields to the other, and the way in which this compromise is effected. For the counseling psychologist's function is to help the individual to effect this compromise. He must not only know the factors which must be compromised and how these have been compromised in the experience of others, but also the dynamics of the compromising process, so that he may facilitate this process in his counselee with constructive results.

ELEMENTS OF AN ADEQUATE THEORY OF VOCATIONAL DEVELOPMENT

An adequate theory of vocational choice and adjustment would synthesize the results of previous research insofar as they lend themselves to synthesis; it would take into account the continuity of the development of preferences and of the differences in the stages, choices, entry, and adjustment; it would explain the process through which interest, capacities, values, and opportunities are compromised. The second part of this paper will be devoted to a sketch of the main elements of such a theory of vocational development as they appear in the literature, and the third and final part will consist of an attempt to synthesize these elements in an adequate theory. The term "development" is used rather than "choice," because it comprehends the concepts of preference, choice, entry, and adjustment. There seem to be a dozen elements to a theory of vocational development: they are taken up in sequence.

Individual differences. One of the basic elements of a theory of vocational development has been the theory of individual differences, a cornerstone of modern educational and vocational psychology. Kitson based much of his early *Psychology of Vocational Adjustment* (14) on this theory and on the findings on which it was based. It was essential to the work of the Minnesota Employment Stabilization Research Institute (19). It is surely unnecessary to document the fact of individual differences in aptitudes, interests, and values, or the significance of these differences for vocational development.

Multipotentiality. A second basic element of theory has been the concept of the occupational multipotentiality of the individual. It was first documented for intelligence by Army psychologists in World War I, and was stressed by Kitson in his early textbook. It was documented for interests by Strong's work on the classification of occupational interests (26). It is a well-established fact and a basic assumption of vocational counseling that each person has the potential for success and satisfaction in a number of occupations.

Occupational ability patterns. The existence of occupational ability patterns, that is, the fact that abilities and interests fall into patterns which distinguish one occupation from another, was established by the Minnesota Employment Stabilization Research Institute (19) and has been confirmed in other studies, particularly those of the United States Employment Service (8). People have been found to prefer, enter, remain in, like, and succeed most consistently in occupations for which they have appropriate patterns of traits. The theory of the patterning of aptitudes and interests within individuals and within occupational families and the significance of this patterning for choice, entry, and adjustment are widely accepted and applied by counselors and psychologists today.

Identification and the role of models. Much has been made of the importance of identification with parents and other adults in individual development by psychoanalytically oriented writers, and this concept is widely used by counseling psychologists

regardless of orientation. It has been little documented, however, in psychological research in the vocational choice and adjustment process. The work of Friend and Haggard (9) and a study by Stewart (1) do, however, provide some objective basis for the theory that the childhood and adolescent identifications play a part in shaping vocational interests, and also provide role models which facilitate the development and implementation of a self-concept, provided that the required abilities and opportunities are present.

Continuity of adjustment. The continuity of the adjustment process was stressed by Kitson in his 1925 textbook as a result of his analysis of the careers of men whose success was attested to by being listed in *Who's Who in America.* The fact that adolescents and adults face a succession of emerging problems as they go through life, and that some of these problems are peculiar to the various life stages, was brought out by the studies of life stages made by Charlotte Buhler (5) and by those of occupational mobility conducted by Davidson and Anderson (7), Strong (26), and Miller and Form (16). And theories of the development of interests have been formulated by Carter (6) and by Bordin (4), theories which I modified slightly in my book on testing and upon which I drew in describing the process of vocational choice and adjustment in a speech first made at Ft. Collins, Colorado, in 1949, revised several times, and later published in the journal *Occupations,* under the title of "Vocational Adjustment: Implementing a Self-Concept" (30). These formulations are drawn on again as the cement for the various elements which need to be brought together in a theory of vocational development and as an explanation of the process of compromise between self and reality.

Life stages. The work of psychologists and sociologists in describing the stages through which growth and development proceed, and in showing how these stages bear on the process of vocational choice and adjustment, has already been referred to. It was drawn on heavily in the text by Pressey, Janney, and Kuhlen (20), in my own first text (28), in Ginzberg's research (10), and in a recent text on *Industrial Sociology* by Miller and Form (16) which is as important for its original contribution and synthesis as it is annoying for its bias against anything that does not conform to sociology as they conceive of it. Buhler's theory of development through the exploratory, establishment, maintenance, and decline stages is translated into occupational terminology by Miller and Form, who also documented the theory for American careers, while Ginzberg, Ginsburg, Axelrod, and Herma have developed in more detail the phases of the exploratory stage. This latter theory needs confirmation with a larger sample and more objective procedures, in view of Small's (24) recent failure to confirm it with a somewhat different adolescent sample, but the general theory of life stages is basic to vocational guidance and will be drawn on heavily in my attempt at synthesis.

Career patterns. The formulation of a theory of career patterns resulted from the occupational manifestations of life stages first documented by Davidson and Anderson (7), added to for a select group by Terman's genetic studies of gifted persons (31), and then pointed up by Ginzberg and his associates (10) and by Miller and Form (16). Career pattern theory appears to be a key element in the theoretical basis of vocational guidance, for it gives the counselor basic assumptions concerning the social, educational, and occupational mobility of his counselees, and it enables him to foresee types of problems which a given client is likely to encounter in establishing a career.

Development can be guided. Another basic element in a theory of vocational development is the theory that development through the life stages can be guided. Although there is ample evidence that ability is to some extent inherited, and that personality too has its roots in inherited neural and endocrine make-up, there is also good evidence that manifested aptitudes and functioning personality are the result of the interaction of the organism and the environment. It is a basic theory of guidance as we know it today that the development of the individual can be aided and guided by the provision of adequate opportunities for the utilization of aptitudes and for the development of interests and personality traits.

Development the result of interaction. That the nature of the interaction between the individual and his environment is by no means simple has been brought out by a variety of investigations ranging from studies of the effects of foster homes and of education on intelligence (17) to evaluations of the effects of occupational information and of test interpretation on vocational plans and on self-understanding (13). The realization of this fact

and the acceptance of this principle have led to a greater humility in our claims for counseling and to a greater degree of sophistication in our use of guidance techniques.

The dynamics of career patterns. The interaction of the individual and his environment during the growth and early exploratory stages, little understood though the process actually is, has been much more adequately investigated than has this same process during the late exploratory, establishment, and maintenance stages. We still know relatively little about the dynamics of career patterns. Terman's work (31) tells us something about the role of intelligence, Strong's (26) about interests, and Hollingshead's (11) about social status, but no adequate studies have been made of the interaction of these and other factors in determining whether the individual in question will have a career pattern which is typical or atypical of his parental socioeconomic group. It was partly with this objective that an investigation known as the Career Pattern Study was launched in Middletown, New York, last year.

Job satisfaction: individual differences, status, and role. Early theories of job satisfaction stressed the role of intelligence and interest in adjustment to the occupation or to the job, building on studies of the relationships between these traits and occupational stability such as those made by Scott (22, ch. 26) and by Strong (26). More recently other investigations such as the Hawthorne (21) and Yankee City studies (32), anticipated in this respect by Hoppock's work (12) and by a minor study of mine (27) in job satisfaction, have played up the importance of the status given to the worker by his job, status both in the sense of group membership or belongingness and of prestige.

While researchers interested in the role of one kind of factor or another have tended to emphasize the signal importance of that type of factor, there is nothing inherently contradictory or mutually exclusive in these findings. They can all be included in a comprehensive theory of job satisfaction or work adjustment. This is the theory that satisfaction in one's work and on one's job depends on the extent to which the work, the job, and the way of life that goes with them, enable one to play the kind of role that one wants to play. It is, again, the theory that vocational development is the development of a self concept, that the process of vocational adjustment is the process of implementing a self concept, and that the degree of satisfaction attained is proportionate to the degree to which the self concept has been implemented.

Work is a way of life. This leads to a final theory, one that has been more widely accepted and stressed by sociologists than by psychologists, but familiar to most counselors and considered basic by some writers in the field. This is the theory that work is a way of life, and that adequate vocational and personal adjustment are most likely to result when both the nature of the work itself and the way of life that goes with it (this is, the kind of community, home, leisure-time activities, friends, etc.) are congenial to the aptitudes, interests, and values of the person in question. In the estimation of many, this is a basic element in a theory of vocational development.

A THEORY OF VOCATIONAL DEVELOPMENT

Now that we have surveyed the diverse elements of a theory of vocational development, there remains the final task of organizing them into a summary statement of a comprehensive theory. The theory can be stated in a series of ten propositions:

1. People differ in their abilities, interests, and personalities.

2. They are qualified, by virtue of these characteristics, each for a number of occupations.

3. Each of these occupations requires a characteristic pattern of abilities, interests, and personality traits, with tolerances wide enough, however, to allow both some variety of occupations for each individual and some variety of individuals in each occupation.

4. Vocational preferences and competencies, the situations in which people live and work, and hence their self concepts, change with time and experience (although self concepts are generally fairly stable from late adolescence until late maturity), making choice and adjustment a continuous process.

5. This process may be summed up in a series of life stages characterized as those of growth, exploration, establishment, maintenance, and decline, and these stages may in turn be subdivided into (*a*) the fantasy, tentative, and realistic phases of the exploratory stage, and (*b*) the trial and stable phases of the establishment stage.

6. The nature of the career pattern (that is, the occupational level attained and the sequence, frequency, and duration of trial and stable jobs) is determined by the individual's parental socioeco-

nomic level, mental ability, and personality characteristics, and by the opportunities to which he is exposed.

7. Development through the life stages can be guided, partly by facilitating the process of maturation of abilities and interests and partly by aiding in reality testing and in the development of the self concept.

8. The process of vocational development is essentially that of developing and implementing a self concept: it is a compromise process in which the self concept is a product of the interaction of inherited aptitudes, neural and endocrine make-up, opportunity to play various roles, and evaluations of the extent to which the results of role playing meet with the approval of superiors and fellows.

9. The process of compromise between individual and social factors, between self concept and reality, is one of role playing, whether the role is played in fantasy, in the counseling interview, or in real life activities such as school classes, clubs, part-time work, and entry jobs.

10. Work satisfactions and life satisfactions depend upon the extent to which the individual finds adequate outlets for his abilities, interests, personality traits, and values; they depend upon his establishment in a type of work, a work situation, and a way of life in which he can play the kind of role which his growth and exploratory experiences have led him to consider congenial and appropriate.

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SOME OBSERVATIONS ON THE ORIENTATION OF CLINICAL PSYCHOLOGY[1]

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WHEN your President invited me to talk he wrote: "We have been concerned particularly with professional aspects of the field, and are concentrating this year on trying to have the state legislature pass a bill providing for certification of psychologists. Some topics which would be of interest to most or all of our members would be: the use of psychological research by psychiatrists, implementation of a national (or state) mental health program, current trends in education for clinical psychologists and psychiatrists, etc." Besides giving me an extremely broad range of topics from which to select, these suggestions reveal the wide scope of the interests of psychologists. This appears to indicate a growing professionalism, a preoccupation with practical problems, and a lively awareness of the social implications of psychology.

Clinical psychology is in the process of defining its role. The public is not sure what clinical psychologists are, nor are psychiatrists. I should like to present some observations to help stimulate constructive thinking toward the solution of problems common to psychology and psychiatry. These observations are based on reactions of many psychiatrists to clinical psychology. I can assure you that psychiatrists, in general, want clinical psychology, but many psychiatrists are not sure what the intent of clinical psychology is, i.e., the type of work it wishes to do nor where it wishes to do this. Psychologists are wanted because the field of mental health is vast and undermanned. It is felt that the addition of well-trained psychologists to the mental health team will promote progress in the field.

Perhaps we are too close to the recent past to determine the factors responsible for the rise of the clinical psychology movement. Social need probably had much to do with it. General insecurity and anxiety seem to characterize our times. War and threat of war and social upheavals cause man to seek relief. The growing interest in psychiatry and the mental hygiene movement are evidences of this. Other factors were the shortage of psychiatrists in the last war and following it and the emergence of psychologists who had more competence in the field of mental health.

It appears, I think, to most psychiatrists that psychology has been meeting its challenge by developing essentially along sound lines. Of the greatest significance has been the preoccupation with problems of training. Any profession stands or falls on the competence of its members to carry out a particular job. The person in need of services seeks out the individual who has the reputation of being able to satisfy these best. And the serious individual seeking training also goes to those centers for training which have the reputation of providing the best training. For the current year about one-half of the medical interns are found in one-quarter of the training hospitals, one-quarter of the hospitals get no interns, and of the remaining one-half of the hospitals with training programs only about 10 per cent fill their quotas. The character of the clinical psychology movement will be determined almost exclusively by the quality and type of training given its members.

It was also a wise decision to have this training sponsored by and under the control of universities and colleges. These are the recognized training centers for the learned professions. The university environment with its traditions of learning, its humanistic and scientific orientations, its spirit of free inquiry and research supplies the most congenial and natural environment for a movement of this type. There is also available in some universities contact with other professional groups such as medicine.

The emphasis upon selection of students who are

[1] Read at the meeting of the Illinois Psychological Association, Urbana, Ill., October 18, 1952.

to enter the field has created a favorable impression. It is hard to know how much has been accomplished here that is new or different from traditional procedures, but the main point is that there has been genuine appreciation of the necessity of getting the right sort of persons into the field of clinical psychology.

One of the most solid points of clinical psychology is the scientific attitude and research emphasis provided by the tradition of academic psychology. This tradition must not be lost; without it clinical psychology would degenerate into a technical procedure which would have to look elsewhere for its ideas.

But there are doubts, too, about clinical psychology, on the part of psychiatry. Here, as number one, must be listed the lack of definition as to the proper field of clinical psychology. There is resistance in psychology to such definition because it may prove to be a narrowing or restrictive influence. Shakow writes, "In a period of remarkable public interest in the general area of mental health, a restricted and rigid definition might tend . . . to hinder natural growth" (3). The lack of precision causes people to ask, "What is a clinical psychologist?" The answer, of course, varies. It is usually related to the contacts the replier may have had with psychologists. One psychiatrist writes, "Unfortunately, the public cannot differentiate between a psychologist and a psychiatrist. Therefore, any recognition given the clinical psychologist will inevitably react to the detriment of the psychiatrist."

Both psychiatry and psychology must share the responsibility for this confusion. Psychology, as a scientific movement, began as the study of the mind, then became the study of behavior. Clinical psychology is concerned with behavior problems and maladjustment. Psychiatry, as a professional activity, began chiefly with psychotic patients and worked from there out to the neuroses, the behavior disorders of children, character disturbances, psychosomatic conditions, and then in a minor way to international relations. So psychology and psychiatry tend to fuse and diffuse and the public gets confused.

Psychiatry has taken the sick person as its central unifying field of operation. Thus it is medical in orientation. The goals of medicine have been fairly sharply defined since ancient times as the postponement of death and the reduction in morbidity. Death and morbidity are matters of great individual concern. Thus most psychiatrists treat individuals who are mentally sick persons.

How can we get recognition of the fact that there is an area of overlap between maladjustment and sickness? At many points the separation is blurred. This seems to me to call for a breadth of training on both sides. But more importantly, it seems to me to call for a fusion of effort to produce a joint attack on both illness and maladjustment.

As long as the clinical psychologist feels that he has a special competence in the areas of research, and in the giving of various examinations which make a contribution to diagnosis there is not much conflict with psychiatry. It is only when the psychologist begins to think more seriously of therapy, particularly in private practice, that questions and opposition arise. This conflict expresses itself in the discussions that have been taking place on the subject of the legal status of psychologists.

Let me quote from some letters I have received in the past few months on the subject.

> It is my opinion that one cannot separate the psychological functions of a patient from his total function. Attempts to treat solely the psychological aspects of an individual are always dangerous and result in inadequate treatment. As this is the only type of treatment that a psychologist could possibly offer the patient, it is easy to see where their program meets with what I believe to be valid objections.

Again,

> Inasmuch as the clinical psychologist depends upon the psychiatrist for his training and opportunities to work in the clinical field, it behooves the physician to set the limits for this program and for the psychologist to recognize his debt for this opportunity and accept these limits. Practice under supervision can never be worked out on a realistic basis to protect the patient or the psychologist. This attitude has grown out of a close working relationship established in institutional practice but at present psychologists are setting up their own offices for private practice, thus changing the entire picture and calling for a new point of view and action to control this. The psychologist should be warned of the tremendous responsibility he is asking for in order that he may know that the responsibility for the health of the community rests with the physician and that he is asking for a part in usurping this role, not in assisting it. . . . The turning over of the psyche to the psychologist is separating the psyche from the soma. In medical schools we teach that the mind cannot be separated from the body. These inter-relationships have been known since ancient times and have been the source of much experimental work since Claude Bernard. The work by Cannon in the 1930's has recently been enhanced by Hans Selye and others. Now comes a group which proposes to divorce the mind from the body—to say that one who has never seen the healing process in action in other parts of the body is

qualified to work with the healing mind as though it existed free in space. Psychopathology is a branch of clinical pathology and the physician is still the only one who should be entrusted with it.

Another letter reads,

This whole problem is not related only to psychologists—there are others in the so-called ancillary services who have been taking on more and more responsibilities which are clearly in the realm of treatment. Perhaps we have erred in not defining limits so that the training of ancillary workers will include such limits just as it does in the training of the nurse in her relationship to the doctor and to the patient in terms of her role in treatment.

Another psychiatrist writes,

I imagine you have seen the article in *Collier's*, March 22 issue, concerning "quack psychologists." It seems to me that this is a piece of propaganda for the private practice of psychologists in the care of emotionally ill people. The only time that the medical profession or psychiatry is mentioned is in terms of turning psychotic people over to psychiatrists. The article purports to expose "quack psychologists" who buy two dollar diplomas and hang them on their walls. It indicates quite clearly that mentally ill people should see psychologists, and that the American Psychological Association will put them in touch with their members. It was written with the collaboration, or at least the blessing of the secretary of the American Psychological Association, and if it represents the point of view of the so-called responsible members of the American Psychological Association, we may as well recognize that these people feel it appropriate to take over the care of neurotic individuals.

Still another letter says,

We have a rather tremendous file of material (in the office of the state medical society) relating to the subject of clinical psychologists. The reaction of the Committee on Public Policy is that no licensure should be granted to this group but it should be accorded some recognition through certification. Some changes in the Medical Practice Act may be advocated so that it would be clear that clinical psychologists engage in a phase of the practice of medicine.

An additional one says,

We are organizing to influence the legislature to include the diagnosis and treatment of mental and nervous disorders in the Medical Practice Act. This should safeguard the patient.

Finally,

The whole subject bores me. I first encountered it in Europe in connection with lay analysis and now again in this country in the form of clinical psychology. Anyone who wishes to treat sick people should get a medical degree.

These quotes must not be taken as a survey of American psychiatry toward the subject of clinical psychology. But they do show what some of the current protest attitudes are. Many of these quotes came from letters written on stationery of a state or branch psychiatric association. The letters highlight a comment one hears occasionally. At the local level psychiatrists and psychologists seem to get along well but at the level of their official organizations—the level of social institutions—there is disagreement.

We should expect this disagreement at the institutional level. Though the problems raised by the letters are varied and complex there is frequent reference to the question of responsibility. He who is given ultimate therapeutic responsibility must meet certain legal requirements. It is worthy of note, too, that when ultimate responsibility is the point under discussion the problem immediately transcends psychiatry and psychology and now concerns medicine as a whole. This at once involves county and state medical societies and the AMA. In this broadened frame of reference the legal status of psychologists tends to be placed alongside other groups which may desire to enter the therapeutic field. Though each case may be considered on its merits there is a halo effect at work here. Should psychologists be certified or licensed? Should biochemists be licensed? In what way are these groups different from osteopaths, naturopaths, chiropractors, etc.? Usually, there is opposition to licensing these other groups because it is felt that, no matter how competent the members of the group may be in their particular area, they have only a part of the training which must go into the broader preparation for diagnosis, differential diagnosis, and therapy. If a favorable attitude develops toward affording legal status to the new group, certification rather than licensure is usually preferred because ultimate responsibility is left with the physician. If licensure is sponsored there is the tendency to say that this shall be conditioned in some way such as placing physicians on the licensing board, or by saying that the particular form of practice must be under the direction of or supervised by a licensed physician. Theoretically, in this way the welfare of the patient is protected.

This traditional arrangement between medicine, or its specialty subgroups, and the "ancillary services" has seemed to be disturbing to some psychologists. This has taken the form of objections to limitations placed upon independent practice. The *Ad Hoc* Report, Principle 6.2, reads, "Psychology as a profession will resist all attempts at restrictive legislation which promises to limit unduly or to abro-

gate the psychologist's opportunity to function as an independent professional person." It is a little hard to know whether this is a warning or a declaration of independence. Principle 5.4 together with its footnote on first reading appears to be a model of restraint and places the emphasis properly on competence and training: "Psychologists will not hold themselves forth as qualified to function as psychologists in independent (i.e., unsupervised and individual) practice until fully qualified in terms of both training and supervised experience in their specialty." And "Private independent practice does not represent the most desirable pattern of development for applied psychology" (1). Unsupervised and individual practice is not to be encouraged. It is not the most desirable, but it is a definite possibility and there is pressure on the part of some psychologists—how much it is hard to say—for licensure. And so the essential conflict with psychiatry would still seem to remain.

In diagnosis and treatment no one profession is completely independent, i.e., unsupervised and individual. There are only degrees of competence which have a loose relationship to degree of independence. The independence is more structuralized in social institutional relationships than real and perhaps takes concrete form in a pecking order.

What happens when a patient comes to a psychiatrist with a complaint? First is the problem of diagnosis. Now what does the psychiatrist do? He takes a history of the present illness and here he is dependent on the patient and his cooperation and frankness. To get an adequate history he must ask the proper questions. Thus he is dependent upon his own medical and psychiatric training. If the patient is a child the parent must give the history, or if the patient is uncooperative or psychotic or is suspected of grossly distorting facts, other informants may be called upon. Similar comments are relevant with regard to the past medical and personal histories. An expression of the dependence of the physician is found in the profession of social work, to which is delegated in a large part of hospital psychiatric practice some of the responsibility for securing relevant historical material. Then comes the mental status examination which involves dependence on previous psychiatric training and experience. This is true also of the physical and neurological examinations. If now a diagnosis has not been reached, and this is frequently the case, consultations and examinations are sought from others. A laboratory examination of the spinal fluid may be desired. A determination of intelligence or of personality assessment by means of projective tests reveals dependence upon the psychologist. An X-ray of the skull entails dependence upon the radiologist. A question of epilepsy calls in the electroencephalographer. Continued careful observation of the daily behavior depends upon the reports of well-trained nurses. How is all this diverse material evaluated? It is evaluated by the psychiatrist in terms of his past training and past experience, which is a reflection of a whole host of dependencies. Or the diagnosis may be reached in a staff conference. A staff conference is a kind of mutual dependency session in which a diagnosis is reached through discussion. After diagnosis comes treatment which reflects dependency upon training and experience and upon the special skills of various members of the staff. Some treatment responsibilities, such as modification of family or parental attitudes, are shared or conducted entirely by the social worker, to the nurse goes the management of therapy on the wards, to the occupational therapy worker certain craft activities thought to have beneficial effect, to the recreational therapist certain socialization attempts, to a psychologist, certain aspects of psychotherapy. So the psychiatrist is dependent on one or all of these for treatment. The psychiatrist can scarcely be regarded as an independent person or as practicing in an independent, i.e., unsupervised and individual manner.

If by independence is meant hanging out a shingle and taking on all comers, holding out oneself as being able to diagnose and treat mental illness, and this is what psychiatrists think psychologists mean by independence, then it is precisely this that is objected to. The American Psychiatric Association is on record as being strongly opposed to independent practice of psychotherapy by clinical psychologists and feels that psychotherapy, when done by clinical psychologists, should be carried out in a setting where adequate psychiatric safeguards are provided. The reasons usually listed for such a position are: (*a*) Organic disease will be overlooked either initially or in the course of treatment. (*b*) Psychiatric disorder will be overlooked initially and in the course of treatment. (*c*) Psychotherapy is not an innocuous procedure but may lead to dangerous conditions such as depression with suicidal tendencies. (*d*) The psychologist who wishes to do psychotherapy can do this in psychiatric institutions or under psychiatric direction at the present time.

Legal recognition does not make a profession independent. It now comes under legal regulation and must conform to certain requirements.

Possibly we have been brought to an impasse on the issue of therapy and are entering a phase when people begin to think of strategy to accomplish their respective aims. These attitudes of psychiatrists and psychologists are, however, realities that must be recognized in resolving the therapy issue.

It is helpful when there is disagreement to take a brief look at the field of mental health. About 600,000 persons are hospitalized in mental hospitals in this country. Their care costs about $600,000,000 per year. The hospitals are overcrowded and as soon as new capacity is provided this immediately fills up and the overcrowding continues. Mental disease is still a subject which is talked about in hushed tones or just not talked about. Recently an Iowa City newspaper carried the story of a woman who had an inoperable cancer and who was cheerfully making the best of her remaining days by doing the things she had never gotten around to doing. Her consoling thought was that she felt she was not the most unfortunate person in the world since she did not have a mental illness. There is an insufficiency of mental health clinics. There is a lack of trained personnel. It is a common belief that if only buildings, ambulances, and operating rooms are provided, adequate personnel will "turn up." This, of course, is false. In 1951 four dollars for research were available per mental patient, whereas there were 27 for tuberculosis, 27 for cancer, 28 for polio.

It ought to be possible to fit the psychologist into this total scheme without friction between psychiatry and psychology. The psychologist has a tradition of research and scientific inquiry, some are experts in public opinion and how public opinion can be changed. More money is needed for research and services. Whatever disagreement exists seems trivial in face of the total need. There ought to be a greater unification of effort.

It has always seemed to me that the most significant area for collaboration is research. Far too much of psychiatry is a clinical art, far too little based on sound research. It is very embarrassing to meet one's therapeutic failures on the street without a convenient alley down which to escape. It is frustrating to discover to what factors patients sometimes ascribe good results. Some time ago we hospitalized a patient in whom we made a diagnosis of paranoid schizophrenia. He was a highly intelligent man, with a good many personality assets, who seemed capable of developing deep insight into his condition. He was treated with an uncovering type of psychotherapy over a period of several months and when no progress was apparent he was given a course of electric shock. This brought no change. He was then given a series of insulin comas together with psychotherapy of an acting-out type when he was recovering from the comas. This also was unsuccessful. Because he had a well-developed delusional system and powerful homicidal impulses directed against a specific person, we transferred him to a state hospital with the recommendation that he not be released until it was absolutely certain that the homicidal impulses were inactive. About three months later the state hospital requested we re-examine him. It was perfectly obvious that he had recovered. The delusions and homicidal impulses were gone; no signs of schizophrenia were present. I asked him what had been done for him and he told me that he had been able to get a new perspective on his trouble and now regarded his former way of thinking and feeling as false and foolish. How did he get this new perspectice? Through deep breathing exercises which relaxed him!

It is possible, of course, to multiply the illustrations of the need for tested knowledge almost without end. Faced with this situation I am inclined to agree with Rapaport when he says that "clinical services and teaching, insofar as they deplete all our resources of research personnel and finances should be considered at this time luxuries" (2).

A group of psychiatrists and psychologists have been discussing some aspects of collaborative research between psychiatrists and psychologists.[2] Collaborative research has its interpersonal problems because it involves harmonious cooperation. Each member of the partnership is able to contribute something which the other cannot. Thus each member is able to appreciate the contribution of the other and to share equally in the recognition that comes from the research.

In its most complete form collaboration implies the planning, executing, and reporting of the project as a joint effort or achievement. Collaboration also means research which is planned in concert, but is carried out by separate groups or individuals and then published as part of one program or as

[2] Report formulated by the Committee on Psychopathology of the Group for the Advancement of Psychiatry. To be published.

parts of related but still separate enterprises. Another level of collaboration is seen when separate researches are fused and jointly reported. Collaboration also occurs when the research is planned, executed, and published separately, but the several individuals keep in touch at various stages of their respective projects. The chief value of collaboration is that our research problems seem so complex as to require many brains, many hands, and many differing skills and techniques for their solution. The differing backgrounds of psychologists and psychiatrists should enrich and give a more complete perspective to the projects.

There are certain barriers which may have to be overcome before we can get more research. There are not enough research psychiatrists. Further, one hesitates to attempt to produce psychopathology in patients, since they have already shown themselves vulnerable to stress by the fact that they are patients. It is also difficult to produce psychopathology in animals which, aside from some behavioral aspects, resembles what our patients show. Faced with this the psychiatrist is apt to turn research over to the psychologist or to a biochemist. This is highly unrealistic. The psychiatrist must promote the research philosophy. He must enter into agreements with medical schools, hospitals, foundations, so that research becomes a much more important activity. My colleague, Dr. Jacques Gottlieb, who is addressing the Mental Hospital Institute next week in Columbus, is stressing the importance of research to hospital administrators. He is saying that the superintendents must draw together persons with the necessary skills and backgrounds to carry out the projects, that psychiatry stands at the threshold of new research opportunities.

We ought also to give some thought to the interpersonal dynamics involved in collaboration, for many such projects seem to fail. One reason is that one person, the "idea man," disparages the man trained in methodology and techniques as being unimaginative, while the methodologist thinks of the idea man as an impractical and naive dreamer. A project fails because one member of the team is domineering or tries to make himself the center of the research nucleus. There may not have been adequate planning at the start concerning the division of labor. One member of the team may be brought into the project at a late stage of organization and prosecution of the work and may have a difficult time becoming a real participant because he enters a situation already structuralized. So he has the choice of withdrawing and incurring ill will or staying and being thought of as overcritical.

Helpful cohesive devices are group planning of projects, progress reports to the group, and group critiques of papers prior to publication. Intragroup seminars and journal clubs are also group integrating devices. Ideally there grows up a mutual appreciation of the other member's basic conceptions, his professional goals, and a recognition of his limitations and assets. Thus there comes a free acknowledgment of contributions from other members of the group. The group then achieves a kind of professional maturity where status is no longer important.

Over the past two years there has been a growing concern for research in psychiatry. The American Psychiatric Association has been having a series of conferences throughout the country devoted to methodology in psychiatric research. Research is being highlighted at the next Annual Mental Hospital Institute. This growing recognition of the necessity of research in psychiatry suggests the pathway by which psychology can make its greatest contribution to the field of mental health. Research has dignity, it has status. Psychology has a research tradition.

Some of us have said that psychiatry rests upon three main disciplines, medicine, psychology, and social anthropology. In this framework psychology is conceived of as dealing broadly with behavior, but more particularly with psychodynamics. Psychodynamics is mainly now a clinical and speculative subject. The challenge to psychology is to help put it on a scientific basis. There is little evidence that the job can be done alone by psychiatry. We ought to get on with one of our most important functions, i.e., to establish more reliable knowledge by way of activity at national, state, and local levels for the joint promotion of research.

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DO PSYCHOLOGISTS READ? THE CASE OF THE *PSYCHOLOGICAL BULLETIN*[1]

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PSYCHOLOGISTS have a strong desire to publish. Year after year the annual report of the Council of Editors of the APA indicates that the editors of the APA journals receive many more manuscripts than they can publish in their allotted number of pages, and nearly every year the Board of Directors and the Council of Representatives are requested to increase the publication budget.

We know then that psychologists write. But do they read? On this topic we have little or no information. We do know that even without entering a library they have access to a considerable body of literature, since certain journals are received by the entire membership. By how many psychologists are the published materials read?

We have attempted to answer this question in regard to the *Psychological Bulletin*. A mail poll was conducted among a random sample of the APA. The sample consisted of every tenth name in the alphabetical membership list of the 1951 Directory, which lists 8,554 members. To each of the 856 persons thus chosen, a letter was sent requesting the recipient to indicate on an accompanying checklist those items of which he had *read the major part*. The checklist contained *Bulletin* publications arranged under five categories. They were: 11 general articles; 10 short articles and notes; 2 special reviews; 30 book reviews; and 6 film reviews; a total of 59 items. All of these items had appeared in the 12 months preceding the mailing of the poll which took place on October 29, 1952. The checklist included all general articles, all special reviews, and all film reviews which were published during this period. It did not seem feasible to list all of the short articles, notes, and book reviews which appeared. In choosing items for the latter categories, we started with the most recent (September 1952) issue of the *Bulletin* and worked backward until the desired number was obtained. No other type of selection was involved.

Of the 856 blanks which were mailed, 50.4 per cent were returned by November 26, 1952. The poll was closed on that date because returns had practically ceased. We have no way of knowing whether the reading habits of those who responded differed from those who did not respond. We can, however, specify the limits by which the total sample *could* differ from the results we obtained. If none of those who failed to respond had read a given item in the *Bulletin*, then our percentage for that item is double what it should be. If all of those who did *not* respond had read a given item (in the *Bulletin*), then the percentage of readership for that item should be increased to a point half-way between the reported figures and 100 per cent. It is possible that those who did not respond were not very different in regard to reading habits from those who did respond and that our figures may be representative of APA membership.

Some of the major findings are the following:

Read one or more	*Percentage*
Film reviews	44
Special reviews	59
Notes or short articles	70
Book reviews	89
General articles	92
Read something	97

These figures are rather higher than we had expected.[2] Perhaps even more surprising is the fact that some individual articles, notes, and reviews

[1] Grateful acknowledgment is made to the James McKeen Cattell Fund for a research grant defraying the expenses of the project of which this study is a part. We wish also to express our thanks for the assistance rendered by B. Brown and E. Karcag.

[2] The authors wish to emphasize that they are in no way responsible for what to them was the surprisingly high readership of the *Bulletin*. The sample of materials used in the poll was taken from the period in which Lyle Lanier was editor. The present authors became editor and book review editor, respectively, in January, 1953. Insofar as the results here reported are favorable to this journal, they must be attributed to the contributors and to the editorship of Lanier.

were read by one-half of the respondents. Three of the 11 general articles were read by roughly 50 per cent; four others by 33 per cent or greater. One of the special reviews and one of the regular book reviews also achieved approximately the 50 per cent score, the former 48 per cent and the latter 58 per cent. Exclusive of film reviews (which appeared for the first time in the September 1952 issue), 18 items were checked by more than one-third of the persons replying; these included 12 regular book reviews and the second special review. In short, of the total items, 40 per cent were read by one-third or more of the respondents.

The subject matter of the materials which elicited this degree of attention was quite varied. In view of the large proportion of psychologists who are interested in clinical psychology, one could correctly assume that some widely read materials would be in this area. Included among the high-readership items are Lindzey's article on the TAT, and reviews of McClelland's *Personality* and of Roger's *Client-Centered Therapy*. But other equally popular items lie primarily in other fields. Brown and Farber's article on emotion and Osgood's paper on meaning each were read by more than one-third of the respondents. Among the highly read reviews of nonclinical books were *Studies in Social Psychology in World War II*, Stevens' *Handbook of Experimental Psychology*, Tolman's *Collected Papers*, Rohrer and Sherif's *Social Psychology at the Crossroads*, Helson's *Theoretical Foundations of Psychology*, Miller's *Language and Communication*, and Humphrey's *Thinking*. And this is not a complete list of the items which were read by one-third or more of those responding.

There has been much talk and some fear that the APA has been breaking up into special-interest groups, and that psychology lacks a central core. The complex divisional structure of the APA may suggest this interpretation. But the largest division of the APA, the Division of Clinical and Abnormal Psychology, comprises only 14 per cent of the total membership. If the next largest division, the Division of Counseling and Guidance, be added without regard for overlapping membership, the two combined would total 21 per cent of the membership. Several divisions representing diverse fields would have to be combined to comprise half of the membership. Of course, such additions are of doubtful value, since they ignore multiple membership in two or more divisions and ignore the large number of members who belong to no division at all. But these figures may, at least, highlight the fact that one cannot readily account for the large reader-audience of some materials in terms of their appeal to special groups. It may be that the APA is breaking up into special-interest groups, but one would not suspect this from the reader-audience of the *Psychological Bulletin*.

To repeat: if our figures are representative of the APA, some items are read by half the membership, many are read by one-third or more, and these publications are in diverse fields. These facts belie the claims of narrow specialization. That half of our professional group should read the same article or review seems to us to indicate that in some respects, at least, there is a high degree of community of interest among psychologists.

What were the least read items? The items having the poorest record were checked by approximately 9 per cent of the respondents: one short note and one book review. No item was read by fewer than 9 per cent, which means it may have been read by approximately 770 persons.

With the exception of "special reviews," the seldom read items appeared in every category. Only one general article, which dealt with statistics, was read by as few as 12 per cent of the respondents. In the main, the short articles and notes were infrequently read. The highest readership attained by any item in this group was 32 per cent. Most short articles were statistical. While many statistical articles were seldom read, the second most popular short article was nevertheless statistical. The readership of book reviews ranges from 9 to 58 per cent; of film reviews, from 12 to 27 per cent.

Our letter invited the randomly chosen subjects to write comments. Ninety-five persons responded to this invitation. While some signed their names, the majority remained anonymous.

Very few persons indicated that they had any difficulty recognizing the items which they had read. Apparently the checklist did not seriously tax the respondents' memory. In one or two cases, respondents indicated that they referred to the journal to refresh their memory. Another indication that memory errors were not serious is provided by the fact that approximately the same readership was attained by the more remote items as by the more recent ones. For example, the two most widely read evaluative articles were those by Lindzey and by Lazarus, Deese, and Osler; the

former had appeared in January 1952 and the latter in July 1952. When the 30 reviews are divided into two halves according to the date of publication, it is found that the average readership for the earlier and the later reviews is 28 and 26 per cent, respectively, which is an insignificant difference.

Some persons explained why they had read so little. Thus: "I am retired and not in good health so am unable to read the journal articles as I used to do." "This is not a fair description of my usual reading. I've been on a new job, and have had little time to read." Such comments suggest that failure to read did not act as a serious deterrent to complying with our request for data.

A rather large number of the comments were favorable either to the journal as a whole or to one or more specific features. In all, there were 139 comments made by these 95 respondents; 36 were neutral in context. Of the 103 value judgments, 70 were laudatory in their tone. By far most praise was given to book reviews (37 individuals), with no negative reactions. The comprehensive evaluative surveys ranked second, with 17 individuals favoring them and only 3 respondents applying censure. The film reviews elicited few responses, four in favor, and three unfavorable to them.

The unfavorable comments were the most picturesque. One psychologist stated, "I have found so little of interest that I have mostly consigned issues to the waste basket." Another said, "Most of the articles in the *Bulletin* are of absolutely no interest to me. I think they represent the very dullest of academic psychology." The signature of this brave person was given. In the face of such criticism, one can take refuge in the consideration that every distribution must have a lower extreme.

Members show little agreement in regard to the features of the *Bulletin* to which they object. One believes it contains "too much clinical and social"; another believes it has deteriorated at the hands of "behavior theorists." Some readers (16) indicate that too many statistical articles have appeared, but some (6) indicate that articles on statistical methodology are a valuable feature. Some comments specific to the editorial policies of APA journals were received. For instance, it was suggested that the overlapping function of certain journals in regard to book reviewing be eliminated.

The volunteered comments uncovered one interesting, though minor, sidelight concerning some members' lack of information concerning APA journals. One individual is considering the possibility of discontinuing the subscription, apparently not recognizing that all APA members automatically receive this journal. Another person "no longer subscribes to the *Bulletin*," yet indicated that some of the contents had been read. Whether the library is utilized while the personal copies lie unopened is uncertain. If our sample is representative, we must multiply these two members by ten to approximate the data for the APA. It is perhaps reassuring if only 20 psychologists in 8,554 demonstrate this degree of confusion.

Several comments expressed interest, and even concern, with regard to the manner in which the results of the survey would be reflected in editorial policy. We must confess that at the present time the exact bearing of the findings upon policy is obscure to us also, but we have a blind faith that this information will not harm us. In any event, the high degree of readership which the poll revealed will challenge us to try to maintain in the future the excellent reader interest which has characterized the recent past.

SUMMARY

A poll was conducted among a random sample of the APA to determine how many members read various materials appearing in the *Psychological Bulletin*. Approximately 50 per cent of the sample responded. It was found that the reader-audience of specific items ranged from 9 per cent to 58 per cent. The most popular items belonged to several *Bulletin* categories and lay in different areas of psychology.

This fact seems to indicate that psychologists in various fields may, nevertheless, share common interests. Of the eleven literature surveys appearing on the checklist, seven were read by one-third or more of the respondents. The two special reviews which appeared were both popular. Most book reviews were read by one-third or more of the APA, and some by as many as half. Although less popular items likewise belonged to different categories and different fields, they tended to be statistical in nature and to belong to sections concerned with short articles, notes, and film reviews.

If the findings derived from this survey can be generalized, it seems fair to conclude that psychologists not only write but also read.

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SOME DATA ON FACULTY AND GRADUATE STUDENTS IN DEPARTMENTS WITH APPROVED TRAINING PROGRAMS IN CLINICAL PSYCHOLOGY

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SOME objective data on the size and the graduate student-faculty ratio of departments approved for training in clinical psychology may be interesting to persons in these and other departments for comparison with their own departments. Every year each department with an approved program is requested to send to the Committee on Doctoral Education a report from which these data are taken. It must be emphasized, however, that no evaluation is based simply on such quantitative data. The individual reports are, of course, kept confidential, but certain totals, means, and ranges are reported here.

TABLE 1

Faculty and graduate students in forty departments

Groups	Number Reporting	Total	Mean	Range
Faculty				
Total	39	732	18.9	8–35
Equivalent full-time for graduate staff	37	333.6	9.0	3.5–30.6
Students				
Clinical	40	1684	42.1	15–92
Nonclinical	40	1970	49.3	10–176
Total	40	3654	91.4	33–268
Student/Staff ratio	37	—	10.6	4.1–37.2
PhD candidates				
Clinical	40	645	16.1	2–32
Nonclinical	40	518	13.0	3–62
PhD's, 1951–52				
Clinical	40	237	5.9	0–12
Nonclinical	40	221	5.5	0–22
Total	40	458	11.5	1–30
Students admitted				
1951	40	995	24.9	8–62
1952	40	809	20.2	4–50

Table 1 presents these data. The mean average number of staff members of the departments is 18.9, with a range of 8 to 35. For the graduate training programs, however, it was thought that a more valid comparison would be in terms of the equivalent of full-time members giving time to graduate instruction and supervision. This was obtained by adding the percentages of time which were reported as devoted to graduate students. It is seen that the mean average of equivalent full-time faculty is 9.0 with a range of 3.5 to 30.6.

The total number of graduate students in these 40 institutions is 3,654, with a mean of 91.4 and a range of 33 to 268 in any one university. It must be noted that this includes both full-time and part-time students matriculating for an advanced degree. This doubtless makes some of the urban universities appear to have an excessively large number of students, but to leave out part-time students would probably introduce a greater error into the picture. Moreover, it is very difficult to determine who are part-time students, for some so-called full-time students are serving as graduate assistants and are not carrying as large a load of study as they might otherwise. Therefore, since part-time students in classes or in research must take the time of some faculty members, they are included in the total number.

Some indication of the faculty load is given by the ratio of the number of graduate students to the number of the equivalent full-time graduate faculty, which ratios have a mean of 10.6, and range from 4.1 to 37.2 for 37 universities. It is very doubtful that this wide range can be justified by the differences in numbers of part-time students at different institutions, or explained by errors in the estimates of fractions of time devoted to graduate students by the faculties.

The average total number of clinical students, 42.1, is smaller than the average total number of nonclinical students, 49.3; but the average number of clinical students admitted to candidacy (thesis plans approved or prelims passed) is 16.1 and larger than the comparable number of nonclinical students, 13.0. This seems to indicate that either more clinical students go through to the doctorate or more of the students recently admitted and not yet admitted to candidacy are interested in nonclinical programs. The number of degrees of Doctor of Philosophy awarded in 1951–52 is approximately equal, a total of 237 or a mean of 5.9 for clinical; and a total of 221, or a mean of 5.5 for nonclinical candidates.

The total numbers of graduate students admitted to these institutions in the past two years show a significant trend. The total number for 1951 was 995, but for 1952 it was only 809, a drop of 186 students or 18.7 per cent. Six of these 40 institutions admitted a few more students in 1952 than 1951; but the mean dropped from 24.9 to 20.2. Some departments commented that their standards for admission had been raised, and several stated that fewer high-grade applicants were available.

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Comment

Contract Research in Economic Psychology

The four articles in the December 1952 issue of the *American Psychologist* [1] discuss such a great variety of government support of psychological research that some readers may think—no doubt contrary to the authors' intentions—they have obtained a complete picture of the stimulation of psychology by contracts with government agencies. The purpose of this comment is to call attention to one type of extensive research, not mentioned in the articles and carried out to a large extent through contracts with government agencies, namely, research on economic behavior or economic psychology. John T. Wilson deplores the "present exclusion of economics" from the interdisciplinary research sponsored by the ONR (p. 716) without mentioning that in other research projects economics has not been excluded.

No doubt there have been several research agencies participating in research on economic psychology, but the writer is intimately familiar only with the research conducted by the Survey Research Center of the University of Michigan. The work was begun during World War II by the former Division of Program Surveys in the U. S. Department of Agriculture and has been carried out since 1946 on an increased scale at Michigan. The largest contracts were made by the Federal Reserve Board. In addition, the Treasury Department, the Housing and Home Finance Agency, the Office of Price Stabilization, and some other agencies awarded contracts to the Survey Research Center. A substantial number of nationwide surveys, consisting of detailed interviews with representative samples of the population or of businessmen, were carried out for the purposes of collecting economic as well as psychological data (information on attitudes, motives, expectations, etc.) and clarifying the interrelationships between the two.

Several years of experience enable us to draw the following conclusions which are well in accord with those of the four authors, and especially Charles W. Bray:

1. There is no antithesis between basic and applied research. Even contracts which are given for specific applied purposes may provide vehicles for basic research. Basic research may be stimulated by practical needs and is often eminently practical. Nevertheless, contract research needs supplementation by work carried out with the help of "free funds" (obtained, for instance, from foundations) in order to contribute most to theoretical and methodological issues.

2. There is no antithesis between organized group research and independent endeavors of individual scholars. The former is necessary because of the scope and the cross-disciplinary nature of the tasks. Yet even ivory tower thinking may find its place in the group endeavor. Both are in need of, and profit most from, "program research" which is devised to tackle broad problem areas over several years. Thereby hypotheses can be tested, revised, and tested again.

3. Contract research and teaching can go hand in hand. The former provides the basis for on-the-job training of graduate students. The students through combining their studies with a research job may need longer to receive their PhD degrees, but at the same time they acquire broader experience (and also make a living).

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University of Michigan

[1] LANIER, L. H., BRAY, C. W., WILSON, J. T., & DARLEY, J. G. *Amer. Psychologist*, 1952, 7, 707–722.

College Catalogues and Industrial Psychology

Poruben in the January, 1953, issue of the *American Psychologist* [1] purports to present "interesting and valuable" information concerning the training of industrial psychologists through an analysis of college catalogues. He assumed that "a college offering the doctorate in industrial psychology should give adequate training in five areas—industrial, statistics, psychometrics, research methodology, and guidance." He then studied college catalogues and tallied the number of semester hours given by the *psychology department* in each of these areas and then gave a rank order to the 30 colleges.[2] By this means, the University of Minnesota ranks 27.5 and the University of Michigan, for example, ranks 1. The unwary might think that Minnesota minimizes training in industrial psychology. The truth is, perhaps, nearer the exact opposite.

The Minnesota doctoral program in industrial psychology could not be described by a study of the *psychology department courses* as listed in the catalogue. It would be revealed, however, in a study of the transcripts of Minnesota graduates who, in increasing number, are now earning their living as industrial psychologists. The point is that the Minnesota department relies on three other departments for advanced training in mathematical statistics, on two other departments for training in psychometrics, and on four other departments for training in production management,

[1] PORUBEN, A., JR. Analysis of industrial psychology courses. *Amer. Psychologist*, 1953, 8, 50–52.

[2] Guidance as an area was dropped from consideration.

time and motion study, scientific management, personnel management, and industrial relations. A study of the department of psychology offerings per se would not reveal the interdepartmental and interdisciplinary character of the training available *and utilized* in producing industrial psychologists.

A better approach than a study of college catalogues would be to study the output of colleges as exemplified by the numbers of persons contributing to the literature or actually working as industrial psychologists. A tally of the 14 universities which trained two or more contributors to the *Handbook of Applied Psychology* reveals that Minnesota ranks 5.5 as shown in Table 1.[2] A tally of the universities which trained nine or more members of Division 14 of the APA (Industrial and Business Psychology) as published in the 1951 APA *Directory* reveals that Minnesota ranks 7.5 as shown in column 2 of Table 1. A tally of the universities which trained two or more members of Division 14 of the APA *since 1944* shows that Minnesota ranks 5.5. (See column 3, Table 1.) Poruben's catalogue rank orders are also included for these same universities to show how *performance* rank orders and *catalogue* rank orders fail to agree.

TABLE 1

Universities ranked according to their production of leaders in industrial psychology and according to Poruben's catalogue study

Colleges and Universities	Rank Order			
	Contributors to Fryer & Henry's Handbook*	Members of APA Div. 14**	Members of APA Div. 14 Trained after 1944†	Poruben's Catalogue‡
Columbia	1	1	4	26
Ohio State	2	2	3	8
U. of Chicago	3	6	8	—
Harvard	5.5	11	—	—
Yale	5.5	7.5	—	—
U. of Iowa	5.5	4	—	13
U. of Minnesota	5.5	7.5	5.5	27.5
New York U.	8	5	2	15
Clark U.	10	—	—	—
Johns Hopkins	10	—	—	30
U. of Penn.	10	9	—	20
Stanford	13	11	—	20
U. of Illinois	13	—	—	27.5
Cornell	13	—	11	24
Purdue	—	3	1	4
Northwestern	—	11	—	15
Western Reserve	—	—	5.5	2.5
U.C.L.A.	—	—	8	2.5
U.S.C.	—	—	8	18
U. of Calif. (Berkeley)	—	—	11	9
U. of Mich.	—	—	11	1

* Universities which trained two or more contributors to D. Fryer and E. R. Henry's *Handbook of Applied Psychology*. Vols. 1 and 2. New York: Rinehart, 1950.

** Universities which trained nine or more members of APA Division 14, Industrial and Business Psychology. *1951 Directory of the American Psychological Association.*

† Universities which trained *after 1944* two or more members of APA Division 14. *1951 Directory of the American Psychological Association.*

‡ Rank order (up to 30) as given by Poruben's study of semester hours of industrial psychology listed in catalogues.

Current statistics of the number of PhD's and MA's turned out by the Minnesota department who are earning a living in industrial psychology show that 26 PhD's and 46 MA's are so engaged.

"By their fruits ye shall know them" would seem to be a more realistic guide to what goes on than a mere tallying of courses in college catalogues. For this reason, *Poruben's recommendation* "that anyone interested in the graduate training facilities of a college for the doctorate in industrial psychology should especially consult columns 6 and 8 of the table" *might well be rejected.*

DONALD G. PATERSON
University of Minnesota

The Validity of a Criterion for Analysis of Industrial Psychology Courses

In the January, 1953 issue of the *American Psychologist*,[1] Poruben evaluated graduate training facilities for the PhD degree in industrial psychology at 30 institutions. He listed five areas of training necessary for a PhD in industrial psychology, and counted the number of semester hours available to graduate students in each area at each institution. The areas surveyed were statistics, psychometrics, research methods, industrial psychology, and 23 "basic courses." He recommended that anyone interested in seeking doctoral training in industrial psychology should consult his table of semester hours and ratings based on the table.

We suggest that there is little relation between the number of hours of course offerings and the quality of the training provided for graduate students. Some faculties teach as few as three hours per semester per member. Some may teach as many as fifteen hours per semester per member. Is the latter five times as good for graduate training as the former? One might possibly argue that the first faculty had five times as much time to devote to graduate training. It is also difficult to imagine how the research or library facili-

[2] PATERSON, D. G. Leaders in applied psychology. *Personnel Psychol.*, 1950, 3, 398–400.

[1] PORUBEN, A., JR. Analysis of industrial psychology courses. *Amer. Psychologist*, 1953, 8, 50–52.

ties available at an institution could be accurately indicated by the number of semester hours available. It is unlikely that graduate student guidance, research participation, and association with the graduate staff could be accurately estimated from the number of hours of formal instruction offered.

We commend Poruben's choice of basic categories, and would add one more which we stress at Cornell, experimental psychology. We are thoroughly in favor of a complete and a vigorous training program in industrial psychology, but no formal graduate courses are required for a PhD at Cornell. The passing of any course is considered to be only superficial evidence of exposure to a subject, and this exposure is an extremely questionable measure of competence, knowledge, or ability to apply a theory. At Cornell graduate students are directed primarily by conferences with faculty, and during the year 1950–51 the ratio of faculty in psychology to graduate students was 1 to 2. This, we submit, is a more adequate index of the amount of guidance available to the students than the number of hours of formal courses.

Even so, we feel that we should set the record straight on courses available at Cornell since Poruben's totals for course hours offered at Cornell are inaccurate. The first row in Table 1 shows his figures, and the second row shows the correct figures for Cornell. All of the courses which constitute the basis for the corrected totals are listed in the divisions of the university catalogue. While not all of the courses are offered by the psychology department of the College of Arts and Sciences, the remainder are available to any student who needs them, through other staff members of the Graduate School.

TABLE 1

Comparison of reported and actual semester hours available in four areas of instruction at Cornell

	Semester Hours				
	Industrial	Statistics	Psychometrics	Research Methods	Total
Poruben's totals	16	6	6	3	17 (sic)
Correct totals for Cornell	46	48	23	9	126

These arguments make us believe that Poruben's choice of method is of limited value for evaluating the 30 institutions, and does not present a valid basis for comparison of graduate programs, or the educational facilities of those institutions. Even if we accept his criteria, the data are extremely inaccurate in the case of at least one of the institutions in his list.

T. A. RYAN,
O. W. SMITH,
P. C. SMITH
Cornell University

The Decrease in Journal Subscriptions

In the January *American Psychologist* there was a short note [1] on the decrease in the number of journal subscriptions. One of the reasons given for this was the increasing cost. However, I feel that the present situation results from a genuine decrease in the reading of professional literature in general. This may have come about because of an increase in the ratio of "applied research psychologists" to "academic psychologists." The reading of journals as a part of the research psychologist's job is generally limited to the specific field or area in which he is working; reading in the general field of psychology, as a rule, is not encouraged. Among academic psychologists, on the other hand, it is considered a basic and important part of their job to keep abreast of current literature in the psychological field in general. Obviously, a certain amount of "off the job time" can and should be devoted to this important task. However, only the professional person who has no interests other than psychology can keep up with all the important literature in the field entirely on his own time.

This will in the future, I believe, result in research psychologists who are exceptionally specialized, narrow, and, in the long run, sterile.

This should not be construed as a criticism specific to the organization with which I am presently associated or to those with which I have been associated in the past. It is, I believe, a problem which confronts the psychologist in most large research organizations.

I cannot offer a solution to the problem, but I believe it is essential that a solution be forthcoming in the near future.

ROBERT G. NEEL
Washington, D. C.

Discriminatory Capacity of the University of Pittsburgh Examination among Graduate Students in Psychology

Since 1947 the University of Pittsburgh Examination for Graduate Students has been required for candidates

[1] SANFORD, F. H. Across the Secretary's Desk. *Amer. Psychologist*, 1953, 8, 54–55.

for master's degrees in all divisions of the Graduate School. The examination is a battery consisting of the Miller Analogies Test, Mathematical Abilities Test, and Reading Comprehension Test. Each test is standardized and commercially published. National norms are available for each but local norms, based on 2000 cases, 1947–1949, have been developed with scores expressed as stanines. For security reasons the mathematics and reading tests are not identified by name.

An extensive validation study using test and subtest scores to predict first-year graduate quality point averages in several academic fields was made by Jenson.[1] He found each of the tests predictively related to success in graduate courses in psychology, with the mathematics test being the most effective for prediction and the Miller Analogies Test the least effective of the three.

Cureton, Cureton, and Bishop[2] reported correlation of the Miller with grade-point average ($r = .68$) and with other variables.

Several approaches to evaluation of the effectiveness of the battery are possible. The one reported here began with the hypothesis that if the tests are effective they will reliably discriminate between successful and unsuccessful graduate students, success being defined as attainment of the graduate degree sought, non-success as termination of graduate study without the degree.

Groups were selected from the total list of formally accepted and entered candidates for graduate degrees in psychology during the period February 1947 to August 1952. Some attrition occurred because of unavailability of scores for some individuals who were accepted prior to the requirement of the examination in 1947 and also for some who were admitted to doctoral candidacy after earning the master's degree elsewhere. This loss was not more than 10 per cent of the available population since many individuals in these categories completed the examination voluntarily or on advisement. Those currently active in the pursuit of the master of science degree were dropped from the population, leaving for comparison a degree-recipients group and a terminated group.

The degree group could be readily identified. In the cases of those who had earned both the master of science and doctor of philosophy degrees during the period, each was considered only in the PhD group. Identification of the terminated group was generally simple. It included those who had met admission requirements and actually entered graduate study but who had not received a graduate degree and were no longer candidates at the University of Pittsburgh for a degree in psychology. Some of these individuals had discontinued on advice of the faculty, some had announced their departure as final, others had merely disappeared. For the latter, non-attendance for two previous semesters without evidence of intent to return was considered termination. A rather clear merit continuum was observable within the terminated group since it included some who left in excellent academic standing for economic, military, or other reasons. A few had transferred to other divisions of the University. It would have been interesting to work with another group, those who terminated after the master's degree. Such a group would, however, be very difficult to isolate since many variables seem to cause interim periods between degrees.

Means were found for each test and group and tested for significance of difference. Data were treated in raw score form. Biserial r's were computed on the dichotomy, degree/terminated.

TABLE 1

Differences between test means of study groups

Test	Degree Group ($N = 93$)		Terminated Group ($N = 38$)		$D/\sigma D$
	Mean	*SD*	Mean	*SD*	
Miller Analogies	73.19	8.03	60.16	13.30	5.63**
(PhD, $N = 32$	75.44	10.34			5.40**)
(MS, $N = 61$	72.00	10.25			4.69**)
Mathematical Abilities	95.60	18.13	75.16	22.21	4.96**
(PhD, $N = 32$	96.69	20.67			4.20**)
(MS, $N = 61$	94.63	23.01			4.18**)
Reading Comprehension	76.30	7.57	72.40	9.43	2.27*
(PhD, $N = 32$	77.94	8.43			2.47*)
(MS, $N = 61$	75.44	7.90			1.66)

* Significant at the 5 per cent level of confidence.

** Significant at the 1 per cent level of confidence.

As evidenced in Table 1, means of the degree group were found to be higher than those of the terminated group on each of the tests. A parenthetically inserted comparison of MS and PhD recipients shows some slight superiority of the PhD subgroup. Differences between either or both degree groups and the terminated group were statistically significant (1 per cent level) on the Miller Analogies Test and on the test of

[1] JENSON, RALPH E. Predicting scholastic achievement of first-year graduate students. Unpublished PhD dissertation, Univer. of Pittsburgh, 1949.

[2] CURETON, E. E., CURETON, L. W., & BISHOP, RUTH. Prediction of success in graduate study at the University of Tennessee. *Amer. Psychologist*, 1949, **4**, 361.

mathematical ability. Reading test differences were significant at the 5 per cent level for comparison of degree-terminated and for PhD-terminated means. The magnitude of the obtained critical ratios implies greatest discriminatory capacity on the part of the Miller Analogies Test. No differences between MS and PhD means were significant. This was to be expected since the policy of the Department of Psychology has been to reserve admission to those likely to complete both degrees.

Biserial *r*'s computed for the degree/terminated dichotomy were: Miller Analogies Test, .61; Mathematical Abilities Test, .50; Reading Comprehension Test, .36.

GEORGE L. FAHEY
University of Pittsburgh

A New SSRC Committee on Linguistics and Psychology

Most psychologists have noticed a quickening interest in communication problems during the past few years. It has been evident in the content of papers and symposia presented at APA meetings, in the setting up of both graduate and undergraduate courses, and in articles appearing in our journals—a recent issue of the *Psychological Review,* for example, included four papers on as many aspects of language behavior. The same trend is apparent in other fields, in education, sociology, anthropology, psychiatry, and even neurophysiology. The contributions of mathematicians, engineers, and others to the development of "information theory" are well known and are responsible to no small degree for the contemporary rebirth of interest in communication research.

For the most part, these recent developments have taken place without contact with linguists. Not only is this surprising, since linguistics is the science most directly concerned with the structure of messages, but it has resulted in considerable naiveté in the design and interpretation of research on language behavior. The stereotype of the linguist held by many social scientists —that he is simply a polyglot or perhaps a philologist— is partly responsible for this situation. As a matter of fact, linguists have developed tools for the descriptive analysis of languages which for their rigor and exhaustiveness put us to shame when compared with our own techniques for describing behavior. Another reason for this situation is that to date communication channels between linguists and other social scientists have for the most part been unavailable. Evolving as specialists within language departments, linguists have generally found professional organization within the humanities and have participated in research and planning groups sponsored by foundations other than those supporting the social sciences. One exception to this has been the close and fruitful collaboration among linguists and anthropologists; another was two conferences between linguists and information theorists held recently at the Massachusetts Institute of Technology; and yet another was the Interdisciplinary Summer Research Seminar on Linguistics and Psychology sponsored at Cornell University by the Social Science Research Council in 1951.

One of the concrete proposals of the Cornell Seminar was that the SSRC set up a committee to survey, stimulate, and aid research in those social science areas bordering on linguistics. Further impetus to this proposal came from a group of linguists, anthropologists, and psychologists meeting together at a Fortnight's Conference of Anthropologists and Linguists held at the Linguistic Institute, Bloomington, Indiana, and cosponsored by Indiana University and the Wenner-Gren Foundation. In October, 1952, the Social Science Research Council established "a new Committee on Linguistics and Psychology . . . to plan and develop research in the field of language behavior." The members for 1952–53 are John B. Carroll of Harvard University (psychologist), Floyd G. Lounsbury of Yale University (anthropologist and linguist), George A. Miller of the Massachusetts Institute of Technology (psychologist), Charles E. Osgood of the University of Illinois (psychologist, chairman), and Thomas A. Sebeok of Indiana University (linguist), with Joseph B. Casagrande (anthropologist) of the Council's Washington Office serving as staff representative.

While it is impossible to foresee the exact course this Committee will take, at least the following types of activities have been initiated or are felt to be appropriate: (1) The Committee will conduct a survey of on-going and contemplated research in language behavior, aimed at an inventory of trained personnel, existing and needed techniques, and potentially fruitful research areas deserving support. (2) It hopes to organize and support a number of small-scale work conferences of 2–4 days' duration on special problems among research workers with confluent and mutually interdependent interests, who would otherwise find little opportunity for such cross-area stimulation and sharing of skills. (3) The Committee may, as its program develops, wish to plan and give general supervision to one or more major pieces of research and give aid in the preparation of special studies. (4) It can serve as a communication channel between research workers in these areas and possible sources of support and, in this connection, can serve as a specialized evaluation board for research proposals falling within its competence. (5) It will attempt, both through work conferences and encouragement of interdisciplinary training of graduate students, to develop teachers and investigators who are reason-

ably competent in both linguistics and one or another of the social sciences. (6) Drawing both on its own membership and on invited participants, this Committee will examine various theoretical models of the language process, including linguistic, learning theory, and information theory models, with the purpose of determining their points of commonness and uniqueness and of appraising their utilities in handling various language problems.

As stated above, one of the first goals of this Committee is to compile an inventory of on-going and contemplated research in the general area of language behavior. Such an inventory is prerequisite to intelligent planning of work conferences and support of research activities. *The Committee on Linguistics and Psychology therefore takes this opportunity to invite both those who are themselves engaged in or planning research on language behavior and those who know of such activities at their own institutions to communicate this information to the Committee.* We would like to know the general nature of the research, the principal investigators, and the institution where the work is being carried on. Further details will be solicited by the Committee as the need arises. This information may be sent to either the chairman (C. E. Osgood, Department of Psychology, University of Illinois, Urbana) or the staff representative of the committee (J. B. Casagrande, Social Science Research Council, 726 Jackson Place N.W., Washington 6, D. C.). Any suggestions as to how this committee can more effectively achieve its goals will also be warmly received.

CHARLES E. OSGOOD
For the Committee on Linguistics and Psychology

Psi Chi

Psi Chi was founded on September 4, 1929, at the Ninth International Congress of Psychology by a group of students and faculty members who had felt the need for a national honorary society in the field of psychology. While the Society has no formal status with respect to the American Psychological Association, its regional and national meetings, as were the preliminary organizational meetings, are held in conjunction with meetings of the APA, and its national officers and faculty advisers are generally required to be members of that association.

The purpose of the organization, as stated by the constitution, is "primarily to advance the science of psychology; and secondly to encourage, stimulate, and maintain scholarship of the individual members in all fields, particularly in psychology." In pursuing this goal, the society requires that its members meet certain scholarship qualifications, and that they maintain high standards of personal behavior.

In the twenty-three years of its existence, the organization has chartered ninety-seven universities and colleges throughout the United States, and has initiated more than twenty thousand faculty members and graduate and undergraduate students. In considering an institution for a charter, emphasis has been placed on such factors as the interest of faculty members and students in their profession as indicated by membership in the APA, quality of research produced, and on-going student activities rather than the size of the department or institution.

Local chapters are largely autonomous in determining organization procedures and activities, being subject only to the general requirements of the national constitution and bylaws. While membership in the organization has been meaningful through individual participation by the student, chapter groups have contributed services through group action for their departments, their schools, and their communities. These services have ranged from support of departmental awards to outstanding students to active participation in the organization of State professional societies.

The organization also participates in many activities at the regional and national levels. Business meetings and programs of research papers are held at meetings in conjunction with regional and national meetings of the APA. The resources of the national organization have been used in participating in such projects as assisting the APA Committee on Ethical Standards for Psychology. For several years, the Britt Foundation has made, through Psi Chi, an award to assist outstanding student research.

The national organization aids chapters in obtaining speakers by compiling information concerning travel of distinguished psychologists and other specialists in allied fields. Newsletters with information concerning the national organization and the activities of local chapters are published three times a year and distributed to all active members, and handbooks and other materials are supplied to local chapters by the national office to assist them in developing and maintaining active programs.

LUCILLE K. FORER
Secretary-Treasurer, Psi Chi

Across the Secretary's Desk

The April Meeting of the Board of Directors

The APA Board of Directors convened in Washington at 9:30 A.M. on Thursday, April 9 and, except for relatively brief intermissions for social and recuperative purposes, met for four full days. A great deal of association business, both routine and otherwise, was handled. The present paragraphs report some highlights. The official and detailed report of the meeting will be issued later by the Recording Secretary.

Actions between September 1952 and April 1953

a. Approval of an APA contribution of $100 to the National Society for Medical Research.

b. Election of 1,204 new Associate members of APA.

c. Election of Herbert S. Langfeld and Donald G. Marquis as APA representatives to the Assembly of the International Union of Scientific Psychology.

d. Approval of the acceptance of a gift of $1,000 from the Midwestern Psychological Association for the purchase of a conference table for the Board Room in the new APA headquarters.

e. Approval of the recommendation from the Publications Board that APA not accept responsibility for the publication of *Psychological Book Previews*.

f. Approval of APA participation in the proposed Scientific Manpower Commission.

g. Election of Dael Wolfle and Leonard Carmichael as APA representatives to the Scientific Manpower Commission.

h. Approval of a budget of $800 for the Committee on a Directory of Psychological Service Centers.

i. Approval of the Education and Training Board recommendation that APA request $14,000 from USPHS to support the E & T program for fiscal 1953–54.

j. Approval of Division 7's request to accept a grant of $1,000 from the Field Foundation to finance the work of a Division 7 Policy and Planning Board.

k. Approval of the Division 16 proposal to hold a work conference on the qualifications and training of school psychologists, and approval of the solicitation of outside funds to support the conference.

l. Election of Edwin G. Boring, John F. Dashiell, David Shakow, E. C. Tolman, and R. S. Woodworth as additional members of the Committee on the Building Fund.

m. Passing of following motion re restrictive legislation:

> Moved that Board of Directors of APA is opposed to legislation restricting to any one profession the application of psychological techniques and knowledge. Public welfare demands that such services be the joint responsibility of many professions, including psychology, medicine, education, the ministry, and social work, and should not be limited to any one of them.

In addition to the above actions (*a*) the Council of Representatives voted in February to move the 1953 meeting from East Lansing, Michigan to Cleveland, Ohio, (*b*) the president made a number of interim appointments, and (*c*) the Executive Secretary took a variety of concrete steps to implement instructions given him by the Council of Representatives in September.

Finances

The Treasurer's report showed that we finished our 1952 operation with a surplus of $14,719.32. Last June an examination of our rate of income and expenditure strongly suggested a 1952 deficit of approximately $15,000. When this probable deficit became known, many members of APA's government got themselves involved in an economy drive, a drive which resulted in an increase in income and a decrease in expenditure for the year. Though a change from a $15,000 deficit to a $15,000 surplus represents a change of only 10 per cent in our annual budget, the change still is one of both financial and psychological significance.

Though it is too early to draw a picture of 1953 finances, it is an excellent bet that the Association will survive—and a good bet that it will thrive. Whether we will survive without a mortgage on the building will depend on the outcome of the forthcoming campaign to solicit gifts to the building fund.

The Convention Program

The Board studied with care the report of the *Ad Hoc* Committee on the Convention Program but

decided against any action to bring about, at this time, any major change in our way of handling our annual meetings. With more and more members wanting more and more space on the program, with everybody connected with the planning of the program wanting to give everybody everything they want, with the finite amount of space hotels are able to provide, and with a limit on the amount of time APA members are willing and able to spend at annual meetings, there clearly is a problem calling for highly inventive solution. The *Ad Hoc* Committee on the Convention Program met last fall and worked out a number of stimulating suggestions. The Board voted that the Central Office, in collaboration with the Committee, work up a document on the problem and its alternate solutions and send this document during the summer to divisional officers and to divisional program chairmen. The idea is that in September there can be intelligent discussion by divisions and by the Council of Representatives and that the *Ad Hoc* Committee can then work further toward the implementation of its own ideas, as they may be modified, and such other ideas as may grow out of September discussions.

Membership

At the request of the Membership Committee the Board confronted the problem of what constituted, for membership purposes, qualifying psychological employment. The Membership Committee has had great difficulty in deciding on the eligibility for membership of applicants who, for example, move from two years of graduate training directly into unsupervised practice in applied psychology. After lengthy discussion of this intricate business the Board endorsed the principle that, for purposes of establishing eligibility of membership, employment for which the individual is not adequately prepared does not constitute qualifying employment. The Board further instructed the Membership Committee to defer action pending future clarification, on applicants who are engaged in unsupervised practice but who have only minimal professional training. It was the Board's feeling that the Association must move rapidly toward the setting up of standards for unsupervised practice of psychology. In line with this movement, the editor of the *American Psychologist* was asked to confer with the Division 12 Committee that has been concerning itself with this matter and to bring about the publication of that Committee's recent report on standards of training for those engaging in unsupervised practice.

Education and Training

Since the E and T Board is holding its spring meeting after the meeting of the Board, there was not extensive discussion of E and T business. The Board did consider, however, the future relations between the APA Committee on Doctoral Education and both the National Commission on Accrediting and the various regional accrediting associations. The National Commission is currently studying ways to coordinate and "sanitize" the accrediting activities of many professional organizations. The Board expressed a favorable reaction to the aim of the National Commission and encouraged the E and T Board to cooperate in every feasible way with the Commission and with regional associations of colleges and universities.

Professional Liability Insurance

As psychologists have taken on new activities and duties, they have felt an increased need for some form of professional liability insurance. A few local groups, on the basis of special arrangements, have obtained such insurance; but for most psychologists this type of protection has been available, if at all, only in the form of rather inappropriate policies and at unduly high rates. For more than a year the Board of Directors has had a committee at work on this problem. The Committee now reports considerable progress. An attorney who is a specialist in insurance law is in the process of drafting a policy which is tailor-made for psychologists and which will provide cheaper and better protection than is now available. The success of this new plan will importantly depend, however, upon some provision for "screening" psychologists deemed preferred risks. Diplomate status in ABEPP will probably provide a satisfactory criterion in certain fields, and other provisions are being considered for the selection of psychologists not covered by ABEPP. The *Newsletter* of Division 12 will shortly publish an interim report on this matter; and the Board hoped that further progress can be announced at the next meeting of the Association.

Public Information

At the September meeting the Board and Council directed the Central Office to step up its activity in the field of public information. The Central Office

staff reported at the April meeting (*a*) that it had procured, on a consultantship basis, the services of Michael Amrine, a professional science writer and experienced newsman, (*b*) that a public information handbook for psychologists had been prepared and would soon be ready, if the Board approved it, for distribution to our members, and (*c*) that other active steps had been taken to insure more adequate and accurate news coverage of some of the activities of psychologists.

The Board discussed for more than an hour the intricate and sometimes conflictful topic of public information. The discussion ranged from astral consideration of the "morality of public relations" to concrete and inventive ideas about ways in which psychologists can educate the general public. The Board seems clearly inclined to move toward more active programs of public information but is convinced that our efforts in this area must be guided by a veridical concern for public welfare. We cannot build up false images of psychology nor can we "toot our horns" louder than our accomplishments warrant. The Board asked the Central Office, in collaboration with the Committee on Public Relations, to draw up for the consideration of the Council of Representatives and of our membership at large, a statement concerning the social goals, the utility, and concrete procedures of a public information program that might be adopted by psychologists.

Nominations

The Board spent the best part of a day formulating slates from which the Council will elect the members of next year's Boards and Committees. These slates will be presented by mail to Council members so that newly constituted Boards and Committees can meet in September.

As in past years the Board struggled valiantly with the problem of involving in the Association's affairs more of our members who are able and willing to work but who are not widely known to Council members. This year each Committee slate will carry the name of a person judged by the Board to fall in the "willing-able-unknown" category. Each such name will be starred on the ballot so that Council can vote for new blood if they so wish.

Co-President of the International Congress

APA has been asked to elect a president of the 1953 International Congress of Psychology to be held in Montreal, June 7–12, 1954. The Canadian Psychological Association will also elect a president. These Co-Presidents, along with Henri Piéron, the President of the International Union of Scientific Psychology, will be the highest officers of the Congress.

The Board voted that each APA member be asked to make a nomination for Co-President and that the Council of Representatives be asked to elect from among the most frequently nominated persons.

Publications

The Board examined the 1952 data on the circulations and finances of our journals and discussed at considerable length the problems presented by the steady increase in the number of publishable papers in psychology. The intricate problem of policies and charges for prior publication was also confronted but no action was taken. The Publications Board will meet at the end of May and will report to the Board of Directors in September.

The Board expressed considerable interest in the study, now being conducted in the Central Office, of the feasibility of our buying and operating our own printing press.

The Central Office

On the basis of its own assessment and the report of the president's *Ad Hoc* Committee on the Central Office, the Board voted that one professional person be added to the Central Office staff. It was the idea of both the Board and the Committee that the additional person could assume detailed responsibility for the increasingly large and increasingly intricate financial affairs of the Association. There is good reason to believe that, with our annual budget of a third of a million dollars and our relatively vast printing and publishing operation, a psychologist who could, for a few years, devote himself exclusively to our financial affairs could easily save the Association more than the amount of his salary and could generally increase the effectiveness and economy of our service to our members. Also the presence of an additional member of the staff would free the Executive Secretary from much detailed concern with financial affairs, allowing him to worry more and maybe more productively about what the Board terms policy matters.

The Board also reacted favorably to the Committee's recommendation that the President annually appoint a Committee to take a thorough look at Central Office operations.

The Building

The Board received with apparent equanimity the news that the final cost of the building and its furnishings will come to approximately $255,000. Equanimity also characterized the reaction to the news that the building and its furnishings had been carefully and objectively assessed to be worth $329,000. The Board also (*a*) left to the Executive Secretary detailed decisions about arrangements with prospective tenants for our fourth and fifth floors, (*b*) voted to appoint a committee to concern itself with the journal library, (*c*) voted to appoint a committee of local psychologists to work with the Central Office on matters concerning the care and use of the building, (*d*) instructed the Executive Secretary to negotiate with the James McKeen Cattell Fund concerning the appropriate use of a proffered gift to the Building Fund, and (*e*) tabled again the question of establishing a psychological museum in the new building.

In reacting to the House Committee's recommendation that the Committee be discharged, the Board fished around for appropriate words to express its approval of the Committee's work. One member expressed a need for something stronger than warm appreciation. This led to the suggestion that the Committee be discharged "with hot appreciation." The communication to the Committee will express some such sentiment.

Divisions

Two divisions have recently requested permission to procure outside funds to support division projects, two divisions have requested permission to retain funds for specific purposes, and several divisions have expressed approval of a Division 15 proposal that the APA Bylaws be revised to allow divisions to retain and accumulate funds which in the past, if unused by divisions, have reverted to APA at the end of the fiscal year. The Board discussed at some length the general question of divisional autonomy and ended up with a motion expressing its approval of some arrangement whereby divisions can have greater financial independence. The question of the most desirable and workable arrangement, however, was left unsettled pending further discussions by and with divisions. With respect to the solicitation of outside funds, it was the Board's feeling that divisions should always work through APA, but the divisions themselves will be asked for guidance in this matter also.

Relations with Psychiatry

For the better part of a morning the Board talked about the relations between psychology and psychiatry and about recent developments affecting these relations (Across the Secretary's Desk, *American Psychologist*, April 1953). Board members sought to define and understand the current situation, to assess possible ways the situation might change, and to trace out proper APA action for each possible future development. Throughout the discussion there was some optimism that psychologists and psychiatrists could find ways, if they both continue to seek them, whereby the two professions can live amicably with one another, can both serve the public without conflict and without insult to anyone's personal or professional integrity.

Loyalty Oaths and Anti-intellectualism

University of California. In 1950 the APA Council of Representatives passed a resolution placing a "ban" on the University of California because of the special faculty oath imposed by the Board of Regents. APA members were enjoined not to take employment at any of the branches of the University and the University was denied the use of the APA employment service. At the April meeting the Board voted to lift this "ban." A ruling by the Supreme Court of California and the Regents' compliance with the ruling settles the major matter of principle and removes the necessity for the ban. The Board voted, however, to include in a letter to the President of the University of California, a statement of continued concern about the University's apparent hesitancy to settle with equity and speed the question of back pay for those faculty members who were dismissed for refusal to sign the oath.

The Case of Bernard F. Riess. The Board passed and implemented the following recommendation from the Committee on Academic Freedom and Conditions of Employment:

> The issue in the case of Dr. Bernard F. Riess is a legal one, based on refusal to testify as to official conduct, according to the provisions of Section 903 of the New York City Charter. Surrounding the case, however, is a complex of social implications which it is to the interest of APA to examine and clarify, with the intent of formulating guiding principles. The Committee on Academic Freedom and Conditions of Employment recommends, therefore, that an *ad hoc* committee be appointed to prepare an analysis of the case, based, among other things, on consultations with Dr. Riess, his former employers, and other persons whose knowledge may be useful in such an analysis.

APA and anti-intellectualism. There is very good reason to believe that in the country at large there exists a clear trend toward anti-intellectualism, a trend giving rise to special oaths, special investigations, special restrictions on scientists and scholars. The Board talked at length about the proper role of an association like ours in confronting such a trend. There was also a good deal of inventive discussion about ways in which scientists and scholars might remove themselves from the defensive in the current situation and take positive action to advance the public acceptance of free enterprise of the mind. It seemed to be the Board's feeling that APA should not now make public protest or public affirmation but that psychologists nevertheless must, as an organization and as individuals, work with like-minded people to find effective ways to protect the individual scientist's right to freedom of inquiry and freedom of speech. It is clearly appropriate now, the Board felt, for APA to do what it feasibly can to keep its members informed of political developments having a bearing on intellectual freedom so that individual psychologists can take what action they deem desirable. The Executive Secretary was informally instructed to explore ways of giving our members such information.

Miscellaneous

The Board also:

1. Appointed Bruce V. Moore to replace the Executive Secretary as Secretary of the Committee on Scientific and Professional Ethics and Conduct.

2. Referred to the Council of Representatives a proposed Bylaw amendment whereby the Chairman of the Conference of State Psychological Associations would automatically become a member of the APA Board of Directors.

3. Referred to the Policy and Planning Board the question of the present and future meaning of Life Membership.

4. Referred to the Committee on International Relations in Psychology the question of ways in which APA might collaborate with the British Psychological Association and the Japanese Psychological Association in advancing psychology in Britain and Japan.

5. Granted $1,000 to help support the Scientific Manpower Commission.

6. Accepted a bequest of $600 from Walter V. Bingham to sponsor a lecture concerned with the "discovery of the talented" and established a committee to select a recipient of the lectureship and an institution to be honored by the sponsorship of the lecture.

7. Granted supplements to the budgets of the Committee on Relations with the Social Work Profession and the Advisory Committee on Legislative Matters.

8. Expressed deep concern over the current financial problems of ABEPP, recognized the significant ABEPP contribution to American psychology, and stated a willingness to work with ABEPP in every possible way to help solve its financial problems.

9. Expressed an interest in exploring an arrangement whereby health and accident insurance can be procured on a group basis for APA members and asked the President to appoint a committee to study the matter in detail.

10. Passed a vote commending B. V. Moore for his work with the Education and Training Board and for his success in facilitating relations between APA and the National Commission on Accrediting.

11. Passed a vote of thanks to the girls in the Central Office who handled so efficiently the details connected with the Board meeting.

12. Expressed the feeling that it is both very pleasant and very convenient to hold a meeting in our own building.

A Reception for the Board

Sixty psychologists from the Washington area and 65 distinguished people who were their invited guests came to the APA building late Friday afternoon, April 10, to meet the members of the Board of Directors and to see the new headquarters. The occasion appeared both pleasant and educational to all. Many psychologists were educatively impressed with both the personal and official caliber of the people other psychologists work with and for. Many of the guests learned for the first time that psychologists have an organization, own their own building, publish ten journals, and have a highly presentable, distinguished, and scholarly Board of Directors. One eminent visitor was heard to say, "I am very pleased to learn that the Association has moved to Washington." The guest was one whose daily decisions affect in fairly direct ways the research opportunities of many psychologists in many settings.

FILLMORE H. SANFORD

Psychological Notes and News

Janet Smith Blakeslee, associate professor of psychology and director of the nursery school in the Division of Special Services for War Veterans at the University of Illinois, died on December 2, 1952.

Captain Stanley D. Curyea, U.S.M.C., was killed in action on February 1, 1953.

Donald E. Baier is leaving the Personnel Research Branch of The Adjutant General's Office, Department of the Army, to join the Commonwealth Life Insurance Company, Louisville, Kentucky, effective June 1, 1953. With officer status in that Company, he will plan and direct a research program which it desires to initiate.

Kenneth W. Spence was awarded the Howard Crosby Warren Medal by the Society of Experimental Psychologists at the annual meeting of the Society, held on March 30–31, 1953, at the University of Texas. The medal was awarded to Dr. Spence "for his persistent and rigorous theoretical and experimental work on fundamental problems of learning."

Harold A. Finkelstein has recently been appointed psychologist for the Cook County Department of Welfare Counseling and Placement Service in the State of Illinois.

Philip I. Sperling has transferred from the Human Factors Division, Directorate of Research and Development, Headquarters, U. S. Air Force, Washington, D. C., to the Air University European Research Group, Detachment II, Human Resources Research Institute, APO 58, c/o Postmaster, New York, N. Y. He will be at 25 avenue Kléber, Paris, France, and will organize a program of technical assistance to the various MDAP countries on personnel matters.

Abraham M. Zeichner has been promoted to senior clinical psychologist at the Connecticut State Hospital.

The department of psychology at the University of Miami has announced the appointments of Jack Kapchan and Raymond Hartley to its staff.

Herbert Rusalem has accepted the post of assistant professor of education in the Graduate School of Long Island University. He will be responsible for the counselor-training program and the services of teacher placement. Dr. Rusalem was also recently promoted to the post of assistant executive director, Federation of the Handicapped, where he has responsibility for the administration of the service program of the agency. He is also a member of the staff of the department of special education, Teachers College, Columbia University.

Emanuel K. Beller, formerly assistant professor of psychology at Indiana University, has joined the staff of the Council Child Development Center, affiliated with the Jewish Board of Guardians in New York, as director of research. During 1951–52, he was granted a leave of absence by Indiana University to conduct a research study with Columbia University in Europe.

Ann Fitz-Hugh is now clinical psychologist at the Upper Peninsula Child Guidance Center, Marquette, Michigan.

William T. Wright has changed positions from clinical psychologist at the Larned State Hospital, Larned, Kansas to clinical psychologist with the Hertzler Clinic, Halstead, Kansas.

Daniel M. Goodacre, III, has resigned his position as research associate at Personnel Research Institute, Western Reserve University to join the training department of the B. F. Goodrich Company in Akron, Ohio as conference leader.

Two members of the staff of the department of psychology at Brooklyn College, Murray Glanzer and Daniel Berlyne, will attend the Institute for Mathematics for Social Scientists to be held during the coming summer at Hanover, New Hampshire.

James G. Cooper has been appointed to the summer staff of Eastern Oregon College of Education in La Grande.

VA Department of Medicine and Surgery Clinical Psychology Announcements

Robert Baker a graduate of the VA Training Program at Clark University has been appointed

to the staff at the VA Hospital, Northampton, Massachusetts.

Jorge Dieppa a graduate of the VA Training Program at Purdue University has been appointed to the staff at the VA Center, San Juan, Puerto Rico.

Glenn Wright a graduate of the VA Training Program at Purdue University has been appointed to the staff at the VA Hospital, Roseburg, Oregon.

Joseph Newman has transferred from the VA Hospital, Canandaigua, New York to the VA Hospital, Memphis (Crump Blvd.), Tennessee.

Rayman Bortner was erroneously listed in the March *American Psychologist* as being a graduate of Northwestern University rather than Western Reserve University.

Officers of the **Louisiana Psychological Association** for 1953–54 are: Irving Arthur Fosberg, president; Thomas Williams Richards, vice-president; and Ruth Hamill Preston, secretary-treasurer.

The **Tennessee Psychological Association**, at its annual conference held at Nashville on February 20–21, 1953, elected the following new officers for the coming year: Edward E. Cureton, president; Theodore Landsman, president-elect for 1954; Lawrence H. Stewart, secretary-treasurer for 1953–54; and E. Llewellyn Queener, representative to Conference of State Psychological Associations.

Call for Papers, Section I, AAAS. Section I (Psychology) of AAAS will meet December 28 through 30 in Boston. Abstracts of papers may be submitted to the section secretary, William D. Neff, Department of Psychology, Faculty Exchange, University of Chicago, Chicago 37, Illinois. They should not exceed 300 words in length. The title of the paper, the author's name, and his institutional connection should be given in the form in which he wishes to have them appear on the program. Abstracts must be in the hands of the secretary not later than September 30, 1953.

The **Human Resources Research Institute**, Maxwell Air Force Base, formally opened its interrogation and small-group observation laboratory on April 2 with a planning conference attended by Institute personnel and a panel of civilian consultants. Plans for the use of the laboratory were discussed by F. W. Williams, Chief, Psychological Warfare Division; H. J. Sander, Chief, Intelligence Division; S. M. Goodman, Chief, Officer Education Division; J. V. Golder, Acting Chief, Officer Personnel Division; D. G. Dittmer, Human Relations Division; J. K. Folger, Chief, Technical Services Division. Civilian consultants attending the conference were Lee S. Christie, Massachusetts Institute of Technology; J. C. Gilchrist, University of Wisconsin; Dorwin Cartwright, University of Michigan; Robert F. Bales, Harvard University; Ned A. Flanders, University of Minnesota; Herbert Thelen, University of Chicago. The consultants discussed the HRRI proposals for the use of the laboratory in the light of their own experiences and also proposed administrative procedures for effectively managing the laboratory, which will be part of the Technical Services Division of the Institute. Representing the central administration of HRRI at the conference were Major General F. O. Carroll, Commandant; Colonel G. W. Croker, Deputy Commandant; and Dr. C. L. Shartle, Director of Research.

During the month of March the Lecture Series of the **American University of Beirut** had lectures by two American psychologists: George F. J. Lehner, Fulbright Scholar at Vienna, who spoke on "Psychotherapy," and Carl Murchison who spoke on "The Effects of Frustration on Individuals and on Societies."

The **APA Education and Training Board** has recommended that the *Ethical Standards of Psychologists* be brought to the attention of graduate students in psychology. The method of doing this is left to each department, but the Board would like to know of experiences, successful or not, in helping students to work according to the code.

Workshop for School Psychologists. The department of psychology and the Bureau of Special and Adult Education of The Ohio State University in cooperation with The Ohio State Department of Education are offering a workshop for school psychologists. The workshop will be three weeks in length beginning June 29 and ending July 17, 1953. To be admitted to the workshop, one must have had at least one year's experience as a school psychologist. Enrollment is limited to 20. Address inquiries to Dr. Harold R. Phelps, Bureau of Special and Adult Education, 321 Arps Hall, The Ohio State University, Columbus 10, Ohio.

The 1953 annual workshop in projective drawings with emphasis upon the H-T-P as a technique for personality evaluation and diagnosis will be conducted July 21 to 24 at the New York Psychiatric Institute by Emanuel F. Hammer and Selma Landisberg. To apply for admission write to Dr. Emanuel F. Hammer, 220 West 98th Street, New York 25, N. Y.

The Postgraduate Center for Psychotherapy of New York announces postdoctoral training opportunities in psychotherapy. The program is designed to train psychiatrists, clinical psychologists, and psychiatric caseworkers to function within the framework of a medical setting. Clinical facilities are provided by the Clinic of the center which is licensed by the New York State Department of Mental Hygiene. The orientation of the methods taught is grounded in psychoanalytic theory. The psychotherapeutic techniques are derived from the fields of psychoanalysis, psychobiology, psychiatric interviewing, casework, and psychological counseling. Prerequisites for clinical psychologists are a PhD degree and two years' clinical experience under adequate supervision. Clinical psychologists are accepted only on a full-time basis with stipends of $3,600 the first year and $4,000 for the second and third years. Scholarships are given to accepted psychologists to pay for all didactic courses, clinical seminars, and supervision. For information and applications write to Dr. Theodora M. Abel, Director of Psychology, Postgraduate Center for Psychotherapy, 218 East 70th Street, New York 21, N. Y.

A lecture on Figure Drawing Analysis will be given by Karen Machover, senior psychologist, Kings County Hospital, Brooklyn, New York, at the Springfield State Hospital on May 18. There is no fee. Address inquiries to Dr. Michael H. P. Finn, Chief Psychologist, Springfield State Hospital, Sykesville, Maryland.

A few remaining copies of the book *New Methods in Applied Psychology* are available at the reduced price of $1.00 per copy. This book is the 1947 proceedings of the Maryland Conference on Military Psychology, edited by George A. Kelly, and is available through the Student Supply Store, University of Maryland, College Park.

Indiana University, School of Education stipends for graduate and research assistantships in educational psychology: stipend range is from $900 to $1,800 depending on qualifications; student must pay own tuition ($4.00 per credit). Some undergraduate training in mathematics or the physical sciences in addition to psychology is desirable. Apply by July 1 to Director, Institute of Educational Research, Rogers K, Bloomington, Indiana.

Appointment as Reserve Commissioned Officer of the Army. The Personnel Research Branch of The Adjutant General's Office has a reserve unit designed to augment its professional staff in the event of mobilization. There are a number of vacancies for company grade officers in this unit and it is desired to fill them through direct appointment in the Army Reserve of suitably qualified research psychologists. Officers appointed under this program could be called to active duty under present laws without their consent; however, no members of this unit have been called to active duty to date. Normally reserve officers appointed under this program would be called to active duty only in the event of mobilization. Applicants for appointment must have received at least a master's degree and preferably a PhD with emphasis on quantitative methods and personnel psychology. Applicants must have at least the minimum number of years of qualifying experience indicated below, and must not have attained the birthday shown below prior to appointment in the grade indicated:

Grade	Age	Years Experience
2d Lt.	28	1
1st Lt.	33	3
Captain	39	7

Each year of relevant graduate education may be counted as a year of qualifying experience. Applicants who are appointed will be required to complete the appropriate extension course series within two years of date of appointment or successfully attend an appropriate associate basic course. A variety of administrative requirements and procedures are required to be followed in the formal submission and processing of official application. It should be understood that the usual requirements such as passing physical examination, loyalty check, interview by a Board of Army Officers, etc., will be included in the administrative procedures. However, before an official application may be processed it is necessary for the applicant to be in possession of a written statement that an appropriate position vacancy in the mobilization aug-

mentation unit of the Personnel Research Branch, TAGO, exists and will be held open for the applicant pending the processing of the official application. On this account, those interested should forward a transcript of undergraduate and graduate work, together with a summary personal history and experience statement to the Chief, Personnel Research Branch, The Adjutant General's Office, Oklahoma Avenue and E Street, N.E., Washington, D. C., within 60 days of the publication of this announcement.

The statement of personal history should include a plain sheet of paper containing the following information pertaining to each position of employment:

a. Name and address of employer
b. Dates of employment (month and year)
c. Kind of business
d. Salary or earnings (starting—final or present)
e. Description of work performed
f. Number and kind of employees supervised
g. Name of immediate supervisor
h. Reason for leaving

Those considered to be best qualified professionally for appointment will be furnished the required statement together with detailed instructions for submitting official application.

National Science Foundation Research Grants and Fellowships. The following research grants have recently been awarded:

David Ehrenfreund, Washington State College: $11,300 for a two-year study of "The Role of Drive-Reward Interaction in Learning."

F. A. Logan, Yale University: $5,000 for a one-year study of "Stimulus Conditions in Learning."

C. D. Michener, University of Kansas: $13,500 for a two-year study of "The Origin and Evolution of Caste Behavior among Certain Bees."

Carl Pfaffmann, Brown University: $16,300 for a three-year study on the "Psychophysiology of the Chemical Senses."

H. E. Rosvold, Yale University: $25,600 for a two-year study of "Brain Functions in the Behavior of Infra-Human Primates."

C. P. Stone, Stanford University: $7,400 for a two-year study of the "Behavior of Hypophysectomized Rats."

E. L. Walker, University of Michigan: $14,000 for a two-year study on a "Comparison of Conditioning Techniques in Learning."

Graduate fellowships for the academic year 1953–54 have been awarded to seven students in the field of psychology. They are George E. Briggs, Jr., Richard L. Deininger, John R. Hughes, Lloyd N. Morrisett, Jr., Evalyn F. Segal, Joseph C. Stevens, and Philip Teitelbaum. These seven awards constituted 1.26 per cent of the total number of National Science Foundation fellowships awarded this year.

Two surveys made by the National Science Foundation are of interest to psychologists. A survey of graduate students in science showed that in 1951 the field of psychology had the second largest number of graduate students. The top ten fields in terms of number of graduate students were chemistry (6,872), psychology (5,221), physics (4,971), zoology (3,084), mathematics (3,071), biology (1,933), geology (1,864), bacteriology (1,343), physiology (1,155), and botany (1,014).

Alan T. Waterman, director of the Foundation, recently reported that in 1952 federal funds for applied research and development in nonprofit institutions totaled $246,532,000 while basic research support totaled only $71,078,000. Of the funds allocated for basic research 87 per cent was administered by the Department of Defense and the Atomic Energy Commission, and only 1.5 per cent by the National Science Foundation.

The Bureau of Internal Revenue has recently ruled that fees paid to qualified psychologists are tax deductible under section 23(x) of the Internal Revenue Code. At the request of the Joint Council of New York State Psychologists, Robert S. Holzman wrote to the Treasury Department for an opinion on the deductability of these expenses. Section 23(x) of the Internal Revenue Code permits a deduction of expenses for medical care. In a letter from the Office of the Commissioner of Internal Revenue (Reference T:R:II; RFW:3) the opinion was expressed that the term "medical care" is sufficiently broad to include fees paid to a qualified psychologist.

Convention Calendar

American Psychological Association: September 4–9, 1953; Cleveland, Ohio

For information write to:

Dr. Fillmore H. Sanford
1333 Sixteenth Street N. W.
Washington 6, D. C.

Canadian Psychological Association: May 28–30, 1953; Kingston, Ontario, Canada

For information write to:

Dr. G. A. Ferguson, Secretary-Treasurer
3544 Peel Street
Montreal, P. Q., Canada

American Psychopathological Association: June 5–6, 1953; New York City

For information write to:

Dr. Donald M. Hamilton
121 Westchester Avenue
White Plains, New York

American Neurological Association: June 15–17, 1953; Atlantic City, New Jersey

For information write to:

Dr. H. Houston Merritt
710 West 168th Street
New York 32, New York

Western Psychological Association: June 18–20, 1953; Seattle, Washington

For information write to:

Dr. Richard Kilby
Department of Psychology
San Jose State College
San Jose, California

Association for Physical and Mental Rehabilitation: July 20–24, 1953; Washington, D. C.

For information write to:

Dr. John Eisele Davis
3423 S. Utah Street
Arlington, Virginia

Association Internationale de Psychotechnique: July 27–August 1, 1953; Paris

For information write to:

Pr. R. Bonnardel
41, rue Gay-Lussac
Paris 5°, France

International Sociological Association: July 27–August 4, 1953; Liege

For information write to:

Mr. Erik Rinde
Grev Wedels pl. 4
Oslo, Norway

Gerontological Society: August 25–27, 1953; San Francisco, California

For information write to:

Dr. Harold E. Jones
Institute for Child Welfare
University of California
Berkeley 4, California

Society for the Study of Social Problems: August 29–September 1, 1953; Berkeley, California

For information write to:

Professor Byron L. Fox, Secretary
Society for the Study of Social Problems
Syracuse University
Syracuse, New York

American Sociological Society: August 30-September 1, 1953; Berkeley, California

For information write to:

American Sociological Society
New York University
Washington Square
New York 3, New York

Change in Plans for the 1953 Meeting of the American Psychological Association

Please note that the 1953 meetings of the American Psychological Association will not be held at Michigan State College as originally planned. They will be held in Cleveland, Ohio on September 4–9, 1953. Details concerning local arrangements appear on page 183 of this issue.

ETHICAL STANDARDS OF PSYCHOLOGISTS

In September 1952 the Council of Representatives of the American Psychological Association adopted *Ethical Standards of Psychologists* as official policy of the Association. The standards, which are provisional, will be used for a three-year trial period. They will be revised, as necessary, and will be considered by the Council for final action in 1955.

The Education and Training Board of the APA has recommended the use of *Ethical Standards of Psychologists* in graduate training programs.

Also available is a smaller booklet, *Ethical Standards of Psychologists, A Summary of Ethical Principles*, which presents in brief the major tenets of the code.

Prices:

Ethical Standards of Psychologists, 186 pages, $1.00. Discounts for quantity orders.

Ethical Standards of Psychologists, A Summary of Ethical Principles, 18 pages, 10¢. Quantity orders of the ***Summary:*** 10 copies, 75¢; 25 copies, $1.50

Order from

American Psychological Association
1333 Sixteenth Street N. W.
Washington 6, D. C.

HOTEL RESERVATIONS

American Psychological Association
61st Annual Convention

Cleveland, Ohio, September 4–9, 1953

The hotels listed below have agreed to furnish room block reservations for the APA Convention. These are the only hotels which have agreed to reserve space for APA members. The range of prices for each type of accommodation is shown. Few rooms are available at the lowest prices.

We are able to assure only rooms for double or multiple occupancy. Please determine in advance those who will share accommodations. Only a limited number of single rooms are available.

Division 3 (Division of Experimental Psychology) has expressed an interest in being housed in the Statler Hotel. Members who wish to stay in this hotel should mark the Statler as their first choice, and send in their requests for accommodations as soon as possible.

The hotel reservation application given below is intended for use by persons attending the APA Convention. The APA Housing Bureau is unable to assume responsibility for those who will be attending meetings of other groups being held at the same time as the APA Convention.

Hotels and Rates Per Day

Hotel	Single	Double	Twin-Bed	Suite
Allerton	\$4.50–\$ 7.00 \$3.50 R.W.*	\$6.50–\$ 9.00	\$ 7.00–\$10.00 \$ 5.50 R.W.*	\$13.00–\$20.00
Auditorium	\$4.50–\$ 8.00	\$7.00–\$10.00	\$10.00–\$11.00	\$25.00
Cleveland	\$5.00–\$10.00	\$8.50–\$10.00	\$10.00–\$16.00	\$23.00–\$34.00 (2 rooms) \$37.00–\$46.00 (3 rooms)
Hollenden**	\$4.50–\$ 8.00	\$7.00–\$12.50	\$ 9.00–\$16.00	\$18.00–\$25.00 (2 rooms) \$30.00 up (3 rooms)
Olmstead	\$4.25–\$ 8.00	\$7.00–\$10.00	\$ 8.00–\$10.00	\$15.00–\$20.00
Statler	\$5.50–\$ 9.50	\$8.50–\$12.50	\$10.50–\$16.00	\$23.00–\$29.00

* R.W. means running water (without bath).
** The Hollenden also has a limited number of large rooms which can be converted into 5-man dorms at a cost of \$3.00 per person.

Hotel Reservation Application

(Please print or typewrite)

APA Housing Bureau
511 Terminal Tower
Cleveland 13, Ohio

Please reserve the following:

..... Single room(s)	Rate \$..... to \$.....	per room
..... Double room(s)	Rate \$..... to \$.....	per room
..... Twin-bed room(s)	Rate \$..... to \$.....	per room
..... Suite(s)	Rate \$..... to \$.....	per suite
..... Bed in dormitory room (Hollenden Hotel only)	Rate \$.....	

If no rooms are available at the requested rate, rooms at the nearest available rate will be assigned.

Choice of hotel: (please be *sure* to give four choices)

Hotel.....First choice
Hotel.....Second choice
Hotel.....Third choice
Hotel.....Fourth choice

Date of arrival..... A.M. P.M. Date of departure..... A.M. P.M.

(These *must* be indicated. Please be precise.)

Name(s) of room occupants:

Name	Sex	Address	City	State

(Attach list of additional names, if necessary)

Note: Mail this application form to the APA Housing Bureau, 511 Terminal Tower, Cleveland 13, Ohio. Do *not* mail it to the APA Central Office. You will receive confirmation directly from the hotel accepting your reservation *after July 1, 1953.*

(Copies of this form may be obtained from the APA Central Office.)

ADVANCE REGISTRATION FORM

American Psychological Association
61st Annual Convention
Cleveland, Ohio, September 4–9, 1953

Please print:

Name: Mrs. Miss Mr. Dr. .....
last first middle

Professional Affiliation:

(Name of affiliation or institution to appear on badge) .....

.....

.....
City State

Home Address: .....

.....

Division Membership: .....

Please check one:

APA Fellow ..... Member, Student Journal Group .....

APA Associate ..... Foreign Affiliate .....

Non-member* .....

* Non-members must pay a registration fee of $2.50. This fee is waived for Foreign Affiliates and members of the Student Journal Group.

Please mail this form to APA Registration Committee, 511 Terminal Tower, Cleveland 13, Ohio.
Do *not* mail it to the APA Central Office.
When you arrive in Cleveland, pick up your badge at the Convention registration desk at the Cleveland College Building.

(Copies of this form may be obtained from the APA Central Office.)

1951 Directory of the American Psychological Association

Reduction in price to APA members

APA members may now obtain the 1951 Directory for $2.00. The regular price is $5.00. Associate members elected in 1952 and 1953 will be particularly interested in obtaining this biographical directory at a greatly reduced price. Only a limited number is available.

Order from

American Psychological Association
1333 Sixteenth Street N. W.
Washington 6, D. C.

CHANGES IN INFORMATION FOR THE 1953 APA DIRECTORY

If you have sent in the information card for the 1953 APA Directory, and *if* you need to indicate changes in the data now appearing on the card, please fill out the appropriate section(s) of the form below and send it to: 1953 Directory, American Psychological Association, Inc., 1333 Sixteenth Street N.W., Washington 6, D. C. There will be no form like this in the June *American Psychologist,* even though the letter accompanying the card said there would be. This is the *last* opportunity for APA members to indicate changes in 1953 Directory information.

No Directory entries can be developed from the form below. The deadline for the receipt of the cards was April 15, 1953. Only Associates and Fellows of the Association are included in its directories.

Please print or typewrite:

MY NAME has changed from .....

to .....

MY MAILING ADDRESS has changed to .....

.....

MY PRESENT POSITION has changed to .....

.....

(Include address of new employing institution)

MY HIGHEST DEGREE is now ..... It was granted on
(Abbreviation)

..... 1953, by .....
(Name of institution)

Signed .....

Date .....

DO NOT SEND IN THIS FORM UNLESS WE ALREADY HAVE YOUR DIRECTORY CARD.

Encyclopedia of

ABERRATIONS

A PSYCHIATRIC HANDBOOK

***Edited by* EDWARD PODOLSKY, M.D.**

State University of New York Medical College

With a Foreword by ALEXANDRA ADLER, M.D.

New York University College of Medicine

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ADMINISTERING RESEARCH ORGANIZATIONS

ANGUS CAMPBELL

University of Michigan

DURING the past ten years an appreciable and increasing number of scientists have become members of research organizations, in civil service, private business, or universities. They have joined staffs numbering dozens, or even hundreds, of highly trained professional people. They encounter therein an atmosphere of organized effort which may seem a notable contrast to the laissez-faire spirit of the typical college department. They learn to work with administrators and administrative controls. Many of them gradually assume administrative responsibility as they become senior members of their organizations.

Most research organizations are directed by people who are themselves trained in research. The nature of the decisions which these people are called upon to make virtually requires this type of background. It is evident that many people who embarked on research careers with no thought of serving in any administrative capacity eventually find themselves fully or mainly occupied with research administration.

The role of the researcher-turned-administrator is an ambiguous one. As a product of an academic background he will almost certainly be influenced by the individualistic values which characterize the faculty culture. On the other hand, his duties as an administrator require that he assume responsibility for the organization and development of the diverse activities of what may be a highly heterogeneous group of individual scholars. There will almost surely be someone at a higher echelon who will expect him to accomplish this with an efficient regard for budgets, deadlines, and personnel policies.

Although no systematic study has been done of administrative practices in various research agencies, it can be safely assumed that they vary a good deal from place to place. This may depend on the type of financing the agency has, its institutional setting, its profit or nonprofit orientation, and, no doubt, in no small part on the personal characteristics of its director. There is no established set of principles by which research directors operate and the comments which follow cannot be viewed as more than one man's observations regarding the problems of administering a research organization. These observations apply more specifically to relatively large research groups than they do to small research teams, and especially to those whose operation requires some degree of coordination.

RECOGNIZING THE ADMINISTRATIVE ROLE

The researcher who assumes the position of administrator is likely to be slower in recognizing his new role than are the people whom he directs. The new administrator will very probably want to keep his hand in some research activity and he may even like to feel that his new responsibilities are an unfortunate annoyance that deserves only incidental attention. But the people who now report to him know immediately that he has become the "gate-keeper" on a variety of critical decisions. They see him almost at once in his new role and they quickly develop expectations for appropriate administrative behaviors from him.

This change of roles may be difficult for the new executive to accept. He has to learn to modify his behavior in many subtle ways. He has to guard against casual thoughtless remarks that might be interpreted as criticism and to be wary of hopeful observations that may be recalled later as promises. He must not indicate undue uncertainty about future appropriations or appointments for fear of setting disquieting rumors spreading through his staff. He learns not to make light of salary levels in his organization or of other perquisites which his staff may feel they deserve. He discovers that his social life becomes much more complicated as his new role involves him in a web of social relationships, both within and outside his organization.

In a word, the members of any research organization or research team have a set of expectancies regarding the behavior of their top officer. He may be able to mold these expectations as he works with his staff, but he cannot escape the basic fact that as the director he has the ultimate word on many questions of great personal importance to his associates, and that he is universally seen by these

people as having this power. He must adapt himself to this role. If he treats these responsibilities in a frivolous or deprecatory way, he will almost certainly offend those around him since they can hardly help interpreting this as meaning that he does not take their problems seriously.

This does not mean that a researcher who moves into an administrator's position must thereby dissociate himself from any subsequent research activity. Depending on the size of his organization and the extent to which his associates help carry the total administrative function, he may maintain a significant part in the research activities of his agency. If his organization is large, however, with a varied program of activities, it is not likely that he can devote his major energies to the details of all the research projects under way. This can be done only at the sacrifice of executive functions that he alone can perform. In group research, administration is one of the important components of the total research process. The administrator who insists on maintaining full involvement in the direct conduct of research may deprive his organization of services more valuable than those which he gives.

PERFORMING THE ADMINISTRATIVE FUNCTION

The administrative functions of the director of a research organization have a special flavor because of the character of the research process and the people who carry it out, but basically they are not different from those which are met in many group enterprises. The administrator's responsibilities may be thought of as falling into two categories; meeting (*a*) the needs of individual staff members and (*b*) the needs of the organization.

Meeting Staff Needs

The professional people who go into research organizations have a highly specialized background of experience and a set of personal values derived from the academic culture. In many ways their personal needs are typical of those of other professional workers. In some ways they differ. The administrator must be aware of these needs, have some realistic appreciation of their relative strength, and be able to provide reasonable gratification of them. Otherwise, at a time when trained people are in demand, he will not hold this staff.

The following list of staff needs is not intended to be all-inclusive and there might be argument as to the ordering of items, but it is sufficient to outline this area of administrative function.

1. The desire for intrinsically satisfying work. This consideration is important to all professional people and peculiarly so to people in research. In organizations which develop their own programs it is not difficult to fulfill. In agencies which conduct research as a service at the specification of outside contractors this may become a problem. A major part of the satisfaction from research comes from a sense of developing one's own ideas. If this is too closely confined by restraints from outside the research organization, one of the most important values for the individual researcher is lost.

It is not always restraints from the outside which frustrate the imaginative researcher. It may be a highly centralized hierarchy within the research organization which pre-empts all significant decisions to itself. In such a situation the bulk of the staff are simply "processors" of research. While such a role may seem appropriate to young people still in the early stages of training, it is not likely to satisfy more mature scholars. Performing as a researcher implies individual initiative and some latitude in the development and carrying out of research plans.

It is usually not difficult for the director of a research organization to assign a large degree of responsibility for the purely research aspects of a project to other members of his staff. Unless the problem happens to lie within an area of his specific interest, he is likely to withdraw in large part from the conduct of the study once the general plans have been developed. This implies, of course, a degree of confidence in the research abilities of his associates which permits him to leave decisions on the day-to-day development of projects to them. He will very probably want to maintain some procedure of continuing review of the work of younger, less experienced staff members, but this can also be delegated to appropriate people. The director who feels himself rightly or wrongly the only competent researcher in his organization holds a most unenviable position and is likely to be a very unhappy man.

2. The need for professional recognition. While there may be research people who have no interest in what the other members of their profession think of their work, it can hardly be assumed that they are typical. The research worker, especially those in university or civil service settings, is very likely to be strongly motivated by a wish for favorable recognition among his professional colleagues. Intramurally, this means a positive response to his

efforts by his associates and especially his superiors. Extramurally, it means the satisfactions which derive from publication, appearance at scientific meetings, membership and participation in prestigious academic or scientific bodies.

A research organization obviously cannot control the amount of professional recognition its members will receive. It can vary a good deal, however, in the extent to which it makes an effort to see to it that its members have an opportunity to display their talents and achievements favorably. It can, for example, bring the names of junior personnel into the authorship of its publications whenever feasible. It can encourage broad participation in scientific meetings and attempt in other ways to bring its younger people especially into contact with the professional world. There are many opportunities which can be exploited to spread the kudos of recognition beyond the top echelons of a research organization if there is interest in doing so.

3. The need for group membership. Individual researchers differ a good deal in the extent to which they derive any personal satisfaction from the sheer fact of belonging to a larger organization. There are occasional solitary types who seem to prefer to be left alone, who find no psychological return whatever in identification with a group. The people who choose to come into a research office are much more likely, however, to react positively to the group situation and to respond favorably to opportunities to identify with the organization.

Generally speaking, it should not be difficult for a research organization to satisfy this kind of motivation among its staff members. Unless the agency is split into factions competing for budgets or other types of advantage, the common goal of research progress should serve as a strong integrating factor. The satisfactions of working with respected associates and of sharing in the organization's achievements accrue to the individual staff members virtually as a natural outgrowth of group life. The administrator's role is not so much to undertake stratagems to increase these psychological benefits as it is to prevent the creation of conditions which would inhibit their natural development. Anything which fosters disunity in the organization will tend to reduce their effect. Favoritism, unreasonable discrepancies in remuneration, special privileges, indecisive or vacillating policies, and the like create resentments that make satisfying group identification difficult.

4. The need for equitable financial and status rewards. Financial gain is not the primary attraction for most people who go into research, but as people living on salaries they cannot fail to be interested in the economic returns their position gives them. The administrator has a continuing responsibility to assess and reassess the contributions the members of his staff are making and to adjust their remuneration and rank accordingly. In so far as possible, he will attempt to make the salary scale of his organization compare favorably with whatever outside standard seems most relevant. Aspiration levels regarding salary will inevitably develop within any working group, and it is unfortunate if these aspirations run too far ahead of what the organization can in fact provide.

Few administrators have unrestricted latitude in the level at which they place their salary scale. The total amount of income available for payroll is likely to be the most important consideration in this regard. In some cases the research group may have to conform to salary policies laid down by a larger organization of which it is part. However, the administrator has a great deal of freedom in the disposition of individual salaries and ranks within his own staff. The achievement of complete equity in these decisions is a goal ardently to be sought and exceeding difficult to attain.

5. The need for adequate conditions of work. The aspect of administration sometimes known as "housekeeping" is perhaps not so important in the life of the individual researcher as the other factors listed above, but it can be the source of great annoyance to him. Grievances arising from the administrative office's failure to provide proper equipment, supplies, or services ordinarily do not lead to very serious personnel problems, but they can contribute to an unhealthy atmosphere of irritation and criticism.

The problem of the administrator in this area is to support his research staff in such a way as to make their operation both effective and efficient, effective in the sense that they achieve their objectives most fully, and efficient in the sense that they accomplish this with the smallest expenditure of money and effort.

Meeting Organizational Needs

It is apparent that the role of the research administrator includes important functions which have significance for the organization as a whole as well as those which concern individual staff members directly.

1. Planning. The long-term development of a research program is often difficult to predict. It is possible, however, to plot a general course which a research group will seek to follow, with rather clear definition of boundaries and some anticipation of rate of progress. This depends on sufficient clarity in the perception of the organization's basic goals so that specific decisions may be seen to be appropriate or not in relation to them. Effective planning also requires an adaptability to changes in external circumstances; policies which become anachronistic may prove fatal. The genius of planning is knowing when to hold a steady course and when to tack in the face of the tempest.

2. Financing. Every administrator worries over his organization's income, whether it be from a Congressional appropriation, an allocation from university general funds, grants from a foundation, or contracts with individual contractors. He is likely to spend a good deal of energy in the elemental problem of keeping money coming in. It is ultimately he who has responsibility for "meeting the payroll."

3. Representing. Organizations usually communicate through their top officers. Many occasions arise when the administrator must represent his organization simply because protocol requires that the person holding his office do so. Delegation of this function to a person of lesser status is not always possible without giving offense. Attending conferences, giving speeches, welcoming visiting dignitaries, and other such honorific performances make up a not insignificant part of the total administrative role.

4. Recruiting. All research organizations have occasional opportunities to bring new people into their staff, either because of expansion or turnover. This may be a highly placed person brought in to assume major responsibilities or, more likely, it may be a young man at a much lower level. In either case, these personnel choices may be crucial to the life of the organization, particularly in the case of the older man where an unfortunate choice may turn out to be very difficult to rectify. There is probably not an administrator anywhere who doesn't wish he had been more foresighted in some of his recruiting decisions.

5. Training. Every research organization is engaged in training, whether it explicitly recognizes this kind of activity as one of its functions or not. The younger staff members cannot fail to profit from the direct experience of working with their more mature fellows even though no specific effort is made to instruct them beyond the needs of the immediate situation. It can be assumed that most research agencies have an active interest in developing their junior personnel since they ordinarily expect to draw on this group when replacements or additions at a higher level are possible. Development in this instance may mean specific formalized instruction, or it may mean a planned sequence of experiences in the various aspects of the organization's research activity. In either case the ultimate effect is to strengthen the organization by making the man a more valuable member of the staff.

6. Coordinating. Coordinating the various units of a large organization is almost by definition a responsibility of its central administration. Coordination does not need to mean dictation; the process of coordination may be participated in by many people on an equal basis. The objective is to achieve effective and equitable operation; effective in the sense that the different parts of the organization reinforce rather than frustrate each other, and equitable in the sense that organizational policies apply evenly in all of the organization's parts.

Coordinating an organization with a larger entity to which it belongs is also essentially a centralized function. The problem in this case is to give the most effective support possible to the parent organization and to receive an equitable share of support from it.

7. Producing. The ultimate product of a research organization is of course the consequence of many people's efforts. Everyone in the organization carries some share of responsibility for getting its work done. There is, however, an overriding obligation carried by those in administrative positions to see to it that the organization as a whole is productive.

Research productivity is difficult to define and difficult to measure, whether it be the individual researcher or the organization itself that is being assessed. Some program of evaluation must be created, however, if there is to be any systematic personnel policy within the organization and if the organization is to have any estimation of its progress as a whole. Setting standards of quality and quantity of research product and seeing to it that they are maintained is a critically important administrative function.

ACHIEVING GROUP RESPONSIBILITY

It is apparent that no single person can undertake to accomplish all phases of the administrative

function unless his organization is very small. No matter how skilled an administrator may be or how possessive of authority he may feel, the detail implicit in the operation of an organization of any size would quickly submerge him. This means that he must share these responsibilities with his associates. His success as an administrator will be largely determined by his skill in accomplishing this.

It is possible to distribute responsibility for the kinds of administrative function which have been discussed in a variety of ways. There are undoubtedly some executives who feel uncomfortable if they do not have their finger on everything that is going on in their organization, even though they have nominally "delegated" many responsibilities to their associates. At the other extreme are occasional individuals who push the philosophy of participation to its extreme by insisting on the direct involvement of large numbers of people in all manner of decisions, large and small. The organization is likely to suffer from either of these kinds of administration.

Optimally, the distribution of responsibility in a research organization should be such as to accomplish the following objectives:

1. It should give the head of the organization sufficient freedom to handle adequately those functions which are implicit in his role and cannot be performed by anyone else.

2. It should bring the head into close relationship with the senior members of the organization in such a way that they share responsibility for major policy decisions and help perform the various administrative functions enumerated above.

3. It should put into the hands of individual researchers or research teams in the organization a large measure of responsibility for the conduct of individual projects.

4. It should give middle and junior personnel a realistic means of influencing organizational policy, but should not involve them in major commitments of time to broad administrative considerations.

5. It should support a feeling of common purpose and common fate throughout the organization.

Individual Interests and Organizational Requirements

The successful achievement of these objectives depends in large part on the willingness and abilities of the members of the research staff to shoulder these responsibilities. The senior staff members who should play a major role in administration must be willing to set aside their specific research activities to what may seem to them an unreasonable degree. They must be capable of considering broad organizational goals as well as those of their own program. They must be able to make concessions for colleagues or policies which they do not find congenial. Not every top-flight research man can do these things. There are some who quite frankly reject this phase of organizational life, leaving these responsibilities for someone else to carry. Others are so poorly suited temperamentally to close personal interaction that they cannot successfully play this role. The presence of either kind of person in the upper echelon of an organization represents a serious problem to his colleagues.

The individuals at lower levels of the organization who are in charge of specific research projects must also take their administrative role seriously or no real distribution of responsibility will be achieved. A study director who has been given authority to develop and execute a research project usually must assume responsibility for completing this project within specific limitations of time and budget. It is an unusual circumstance indeed for a researcher to have unlimited time and resources to do as he pleases in his chosen field of inquiry. This is especially true in research organizations, where financial support is for the most part on a grant or contract basis.

It is highly desirable that the person who is directing the purely research aspects of a project shall also make decisions on expenditures, report deadlines, and other major phases of administering the project, since the two kinds of decision are so intimately interrelated. Once the character and scope of his project have been determined the study director will want to make the subsequent day-to-day decisions himself; he acts not only as a research thinker, but also as a project executive. A person who can carry out both of these aspects of the study director role effectively becomes a very valuable member of his organization. He not only is contributing his research skill and imagination, but he is also carrying responsibility for part of the total administrative burden.

It is not uncommon to find that people coming from an academic background to their first position as research director founder badly in the administrative aspects of their new role. This is hardly surprising since, as noted earlier, they are very unlikely to have received any training or experience

which will help them in this phase of their work. They are not accustomed to working within an organizational structure and to adjusting themselves to the formal and informal interpersonal patterns that exist in large groups. They may be quite unfamiliar with the exercise of authority, either by themselves or by their superiors. In short, they have not yet learned how to perform effectively as responsible members of a closely integrated organization.

Some people of undoubted research talent seem unable to adapt themselves to the demands which supervisory responsibilities place on them. They cannot keep their work on schedule, they cannot manage their budgets, they cannot give their subordinates intelligent direction, they cannot communicate adequately with their superiors. Some people learn these skills and enjoy their proficiency in them; others do not. A study director who cannot manage the administrative aspects of his job is likely to find himself placed under close supervisory control from above, a circumstance which he may consider very oppressive.

Research organizations are sometimes able to overcome the problems created by highly individualistic staff members by assigning them the role of consultant or resource person to the rest of the organization. In effect, the person is then holding a "staff" rather than a "line" position. This arrangement is not uncommon in large organizations and it can be effective if the individual concerned has in fact unusual research gifts and is able to communicate successfully with people who seek his assistance.

Realistic Responsibility

While it is desirable to transmit administrative responsibility for specific research projects down the line of supervision as far as it can be effectively exercised, it is not desirable to try to spread the responsibility for the many details of organizational administration over more than a relatively small group. People at all levels of a professional organization want to be informed and want to feel that their point of view on important policy matters will be given a hearing. But involving them in a realistic way in the daily flow of administrative decisions at the organization level would require an investment of time that would detract seriously from their attention to their specific research assignments and would more likely produce frustration than satisfaction. It is not entirely honest to ask people to participate in decisions for which they have had no preparation; a small group can keep itself informed on the many details of the organization's administration, a large group cannot.

Large organizations are made up of subdivisions or "families" which, because of their particular function, geographical proximity, or other characteristics, have some psychological unity of their own. Within these smaller groups middle and junior level people can be drawn into consideration of those policy matters which have particular relevance for them. They can take part in a very realistic way in the solution of administrative questions which concern their own work units. By stimulating participation of this kind within small groups relatively homogeneous in rank, the organization can achieve a meaningful and widespread sense of involvement in administrative decisions among its staff.

A Sense of Common Fate

The attainment of a sense of common purpose and common fate among their members is an objective toward which most organizations aspire. In large organizations where there is great distance between the various hierarchical levels this is usually not very effectively accomplished. Industrial management, for example, has developed a variety of devices for creating loyalty and positive attitudes among rank and file employees and while these may accomplish some degree of good will, there is little evidence that they change the worker's motivations in any significant way.

Most research organizations are small enough that everyone can know everyone else's name if he makes an effort to learn it. It is not difficult under such circumstances for people to become highly identified with their organization, especially when their common goal is such an exalted purpose as "advancing the frontiers of knowledge." As noted earlier, this group spirit tends to develop naturally without any special stimulation, but it can be fostered or dissipated by the pattern of administration which the organization adopts. If the organization succeeds in spreading a sense of responsibility widely through its membership by broad participation in administration within appropriate and realistic limits, it will create an atmosphere within which both research and researchers should flourish.

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DEGREES FOR CHARLATANS

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CLINICAL psychologists have tried to meet their increasing responsibilities by taking steps to assure that only properly qualified and trained persons receive recognition as clinical psychologists. The methods of insuring proper training and qualification place importance upon a graduate degree. Most frequently, at least eight years of university training must be completed before a PhD degree is conferred in clinical psychology.

With the increasing demand for the services of clinical psychologists, some schools have capitalized upon offering easily obtained degrees in psychology. Schools exist whose sole purpose appears to be the awarding of degrees for little or no effort. These degrees are offered to people of indiscriminate background for the completion of a negligible amount of study on frequently indifferent courses.

The present paper is concerned with the effect such degree-granting institutions have upon clinical psychology. These degree-granting correspondence schools are firmly and legally established. The paper is not peppered with the names of fly-by-night schools which manage to award a few degrees before going out of business. The schools to be discussed represent a serious and lasting threat to the status of clinical psychology.

All the correspondence schools attracting degree-hungry quacks make announcements indicating that students need not have any special educational background in order to enroll. They also seek to whet the appetite of potential students. For example, the "catalogue" of the Neotarian College of Philosophy devotes considerable space to saying that the possession of a doctor's degree carries with it the advantage of distinction and prestige in one's chosen field. One reads that this coveted degree may be obtained in a comparatively short time, through an easy study course, and at a very reasonable rate. Such an announcement is typical of all the degree-granting schools to be discussed in the present paper.

TYPES OF DEGREES OFFERED

Some correspondence schools offer such esoteric degrees in psychology that there is little danger of their being confused with the academic degrees of recognized schools. The degree of Certified Grapho Analytical Psychology, offered upon the completion of correspondence training with the International Grapho Analysis Society, Inc., would probably never be seriously confused with a bona fide degree in clinical psychology. It is also unlikely that the $50 course of Western University, designed to train technicians in such fundamental principles as chiropractic, mechanotherapy, hydro therapy, Swedish massage, divine healing, psychotherapy, and colon therapy, would be mistaken for an academic graduate course. Nor would a Western University Doctor of Chiro-Deo-Therapy be recognized as the same as a PhD in clinical psychology.

The same may be said of the now well-established mystic and semireligious correspondence school degree of Doctor of Psychology (PsD). More than one psychologist has been able to slough off such a degree by saying that no recognized institution has ever conferred one. This is true, but the average patient cannot be expected to know it. When a patient sees a diploma behind a charlatan's desk, the diploma is assumed to be valid. When the diploma reads, as the majority of correspondence school diplomas do, something like this: "Know all men by these presents that————has satisfactorily and honorably completed a course of study and training in the Snow White College, and we, the Board of Trustees in accordance with the articles of incorporation under and by the authority of the State of————, confer upon him the degree of Doctor of Psychology [signed and magnificently sealed]," it appears to be evidence of academic recognition. It does not say anything about having been earned by correspondence work. One could not blame a patient for being led into thinking he was consulting a qualified psychologist.

Courses leading to the Doctor of Psychology degree are offered by the following correspondence schools: College of Universal Truth, Institute of Metaphysics, Searchlight University, The College of Divine Metaphysics, and The Neotarian College of Philosophy. The PsD degree is apparently in such demand that the National Institute of Hyp-

nology has recently offered a course leading to the degree of Doctor of Psychology in Hypnology (PsDH). It would seem that the PsD degree is as well established in some correspondence schools as the PhD is in recognized colleges. We have our Doctor of Philosophy in Psychology degree. They now have their Doctor of Psychology in Hypnology degree course.

The PsD degree course from most of the schools listed above will cost the student $100, with a 5 to 10 per cent discount for cash in advance. That is, all save the Doctor of Psychology in Hypnology degree course. This course was designed, according to the three pages of mimeographed matter supplied by the offering institution, for physicians, dentists, and all others who are qualified to receive the doctorate. Since the prospective student is told to check the course that is most applicable to his needs, it seems that the tuition fee is sufficient to qualify one for the doctorate. The Institute states that anyone completing a previous, briefer course in hypnosis is eligible to matriculate for the $150 doctor's degree. To make it even more convenient, the material of the PsDH course includes the text material of the earlier course, as well as some new material. The Doctor of Psychology in Hypnology receives ten lessons and two textbooks. There is no mention of an examination covering this reading.

The required courses of the Neotarian College of Philosophy for the Doctor of Psychology degree are representative of the type of lessons supplied by other degree-granting correspondence schools. Two courses must be completed before a diploma can be issued. They are applied metaphysics and applied psychology. The 30 mimeographed lessons of the applied metaphysics course explain "the Why of God, World, and Man." They also tell the student how to make eternal truth as simple as his ABC's. According to the prospectus, the following subjects are taken up and fully analyzed: that complex human being—you, and your personal entity; the planes of consciousness, the origin and scope of the mind's psychic powers; breathing the breath of God; thought waves carry soul-vibrations; ever active powers of mind control destiny; and "the World is but empty shadows."

In the applied psychology course the students learn that psychology is simply the science of mind. Applied psychology explains mind in its "every form of manifestation." The course is said to be written in plain and simple words. It is both easy to understand and to put into practical use in everyday life, to the great and lasting benefit of those who take it. Perhaps an example of the simplicity and practicality of the psychology course is found in the discussion of phenomena, both mental and physical, and their control through the laws of nature. For, the catalogue continues, all mental phenomena result from definite ideas. "Mental activity is always a force and is either positive or negative."

The student may receive the PsD degree from The College of Divine Metaphysics upon completing courses in practical metaphysics and the psychology of business success. The College of Universal Truth requires course work in building the healing matrix and the seven steps to self-sufficiency. They warn, further, that no work written in pencil will be accepted.

For the completion of two courses, namely, metaphysics and realization, and metaphysical healing, a diploma and the degree of Doctor of Psychology are awarded by the Institute of Metaphysics.

In spite of the freedom with which correspondence schools award PsD degrees, the clinical psychologist may feel somewhat protected. Some clinical psychologists believe that eventually all clinicians in psychology will possess a PhD. When such is the case the public should come to expect bona fide clinical psychologists to be Doctors of Philosophy. However, the College of Universal Truth, The Neotarian College of Philosophy, and Searchlight University are currently offering courses leading to the Doctor of Philosophy degree. The College of Universal Truth has the esoteric degree of Doctor of Philosophy in Metaphysics (DPhM).

The Neotarian College of Philosophy requires the completion of courses in basic philosophy, mystical Bible interpretation, applied metaphysics, metaphysical healing, and applied psychology as well as a thesis on one of the above subjects for their PhD degree. This may seem like a small course load for a doctoral student to carry. However, the college offers no other courses. The cost is $250.

One may obtain a PhD degree from Searchlight University for only $100 on the easy payment plan by completing a single course. This course *introduces* the student to philosophy and "with remarkable directness" leads him into provocative philosophic readings.

Most of the degree-granting correspondence schools schedule one lesson every week. In the present writer's experience, there has been no ad-

herence to such a rule. They will allow the student to progress as rapidly as he wishes. A student with spare time, the ability to read and write English, and the required fee may become a PhD in a matter of weeks.

A PhD may be obtained from Western University without taking any lessons. This unique university is authorized to accept the hours of students from any educational institution. If the hours are sufficient to meet with the requirements of the board of directors a certificate, diploma, or degree will be awarded. One desiring a degree is instructed to send in copies of diplomas from other schools, or a notarized affidavit of studies and practical work. It is also necessary to write a 3,000-word thesis (approximately the length of this article) on the subject in which a diploma is desired. Written examinations of unspecified content must be passed with a grade of at least 75 per cent before a degree will be conferred.

After the hours, thesis, and examinations have been accepted, Western University will award a degree in the desired area. On one of their application blanks the degree pictured reads, in part, as follows: "Be it known that————having satisfactorily completed that Course of Study as prescribed and passed the required examinations, the Board of Trustees upon recommendation of the Faculty, confer the Degree of Doctor of Philosophy upon him together with all rights and privileges pertaining thereto."

The cost of Western University office expenditures is $100. If the applicant does not meet the requirements his money will be returned. There is "no charge" for the degree; it is awarded.

NEED FOR CONTROL OF DEGREE-GRANTING CORRESPONDENCE SCHOOLS

When the records of Oriental University, Washington, D. C., were brought into court in 1925, it was found that 601 degrees had been conferred in a little more than two years by that correspondence institution. The degrees included 348 doctorates in chemistry, pharmacy, engineering, medicine, philosophy, and divinity (12). Educators interested in upholding standards in American universities capitalized upon the publicity of the trial. They were among the first to suggest controlling diploma mills. As early as 1926 an article appeared (8) on institutions without equipment, standards of admission, or graduation but which awarded a degree-conferring diploma. Educators have continued working for the elimination of fraud in education (3).

For some time psychologists have been concerned with psychological racketeers (5, 11). Only recently have they become slightly interested in the correspondence schools that may supply charlatans with high-sounding degrees (1, 4, 9, 10). Not only may patients be easily deceived by the holders of degrees from the types of schools mentioned, but also, the existence of such easily conferred degrees tends to undermine the respect given to earned degrees from reputable institutions. Standards in clinical psychology will be materially advanced by controlling the sources of degrees for the untrained and the unscrupulous.

LEGAL RECOGNITION

It is not an easy matter to control degree-granting correspondence schools. Several of those mentioned in the present article have been in business for 30 years or more. All of them have legal recognition. That is to say, all of them are chartered or incorporated in their respective states and have been granted the full legal right to confer the degrees they offer. None of the schools treated in the present paper is fraudulent in the sense that it is not legally empowered to grant degrees.

Many of the correspondence schools cited make the most of their legal recognition. For example, the College of Divine Metaphysics stresses that it was incorporated as a religious educational institution in 1918 and has the full legal right to grant the degrees it offers. The Institute of Metaphysics and the Neotarian College of Philosophy both prominently mention that they were incorporated as religious and educational institutions under the laws of their respective states. The College of Universal Truth and the National Institute of Hypnology operate under a charter from their respective states. Western University advertises it has received a charter from its state for *all* learning.

It was once felt that an association of college and university administrators (12) or smaller regional groups (2) could take steps to solve the problem of control. It was believed that legislation sponsored by such an association could solve the problem.

However, state control is not standardized (2, 12, 13). Of the correspondence schools mentioned as advertising their legal recognition, one has been given the legal right to confer degrees by Indiana, another by Missouri. Both states now exercise

adequate legal control. Another college operates in Illinois, a state which also exercises control over nonprofit colleges. One has been chartered by the State of Delaware, which is one of four states at present with the highest legal requirements for the recognition of a nonprofit degree-granting school. Delaware requires a certificate of approval in addition to a charter or license to establish a nonprofit college.

The references made by degree-granting correspondence schools to the state-conferred legal right to grant degrees are apparently intended to imply that the school is operated and controlled by the state, hence it must be a recognized school. As we have seen, this is not so. We can, however, be certain that the degree-granting correspondence colleges are "nonprofit schools," because there never is a profit. All the moneys are applied to the salaries of the "faculty" and for office expenses.

ANSWER TO PROBLEM

Legal recognition by means of state control does not seem to be the entire answer. Some states once exercising poor control now exercise adequate controls (2, 12, 13). Some states regarded as having adequate controls in 1938 (2) now have inadequate controls (13). Schools providing charlatans with educational degrees have been criticized and investigated by such competent groups as the United States Office of Education, the Federal Trade Commission, the Better Business Bureau, the American Association of University Professors, and the Institute of International Education. None of these groups has ever been able to substantiate its suspicions that the schools were out-and-out diploma mills (6). They have only succeeded in finding that the schools were chartered by the state in which they were established and had the legal right to grant degrees. As long as they make no claim that their degrees are state licenses to practice, they remain well within the law.

Clinical psychologists can help to end fraud in degrees in psychology by writing articles for local papers and giving talks before local groups in which they stress the requirements for a recognized degree in clinical psychology. These requirements can be contrasted with course offerings of degree-granting correspondence schools. They can encourage university and professional associations to emphasize to their state congressmen the need for effective legislation and control over correspondence schools. They can work to have state and national organizations denounce fraudulent degrees in psychology by means of resolutions and pronouncements. They can encourage psychologists to be alert and to send letters and other materials pertaining to fraudulent colleges to the Federal Trade Commission in Washington, D. C. They may write to James B. Edmonson, Chairman, Committee on Fraudulent Schools and Colleges, University of Michigan, Ann Arbor, for information on effective ways of outlawing unscrupulous institutions.

Such action will make the public aware of the existence of fraudulent degrees in psychology. State officials will be encouraged to assume more responsibility for correspondence schools that give little real service to students.

Diploma mills are already a cancerous growth on the body of education (7). Charlatans must not be allowed to eat away the structure of respect and responsibility for which clinical psychologists are working.

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PUBLICATION PROBLEMS IN PSYCHOLOGY

DIVISION OF CLINICAL AND ABNORMAL PSYCHOLOGY, COMMITTEE ON PUBLICATION OUTLETS

IN 1949 the Division of Clinical and Abnormal Psychology set up a Committee on Publication Outlets to bring together information and to recommend appropriate action on what was thought to be a developing problem: an increasing production of articles and monographs by members of the Division, relative to available publication outlets. Reports of this committee's work have appeared in Division 12's Newsletter, but the problem is of concern to many members of the APA; hence this condensed version.

The Committee gathered facts in three ways: by collating published and generally available reports of journals and of the APA Publication Board, obtaining information from editors of journals by means of a questionnaire, and going directly to Division 12 members with two questionnaires.

READERSHIP SURVEY

The first part of this report deals primarily with responses to one of the questionnaires to the members. Responses were received from 375 members, or approximately 29 per cent of Division 12 membership. Although almost certainly a biased sample, it may be regarded as an approximate sample of those who are interested in or care about problems related to publication.

The first page of the questionnaire was devoted to a rather complicated quadruple question, designed to give four kinds of information about journals "in the field of clinical and abnormal psychology broadly conceived (to include personality, counseling, guidance and psychotherapy)." It consisted of a list of 17 journals and several blank spaces for ad lib write-ins. Respondents were asked to indicate (*a*) whether they subscribed to the journal, (*b*) whether they regularly scanned the journal, (*c*) their ease of access to the journal, (*d*) journals in which they would like to publish and also those in which they would not publish. We hoped through (*d*) to get a measure of the relative prestige of the journals and of their desirability as publication outlets. For, no matter what the circulation of a journal is, if a sizeable group of people feel that they do not want to submit any work to it, it in effect does not exist as a publication outlet for them.

From the answers to these questions it is clear that, for clinical psychologists, the *Journal of Abnormal and Social Psychology* and the *Journal of Consulting Psychology* are the two outstanding publication outlets on all counts. The *Journal of Clinical Psychology* is available to just about as many respondents, but it is read and subscribed to by a good many fewer. It is also in the anomalous position of being ranked fourth of the preferred journals for publication and at the same time was checked most often as the journal in which a respondent would not publish. In spite of the sizeable minority of respondents who would not use this journal as a publication outlet, it remains one of the "big three" journals for Division 12. It is very likely that if these 17 journals were ranked in order of their total circulation, there would be a sizeable rho with the prestige rank order. It is to be expected that people would not want to publish in journals that are read by few of their colleagues. An apparent exception of this rule is the journal, *Psychiatry*, to which only 5 per cent of the respondents subscribe, yet which stands rather high in the rank orders of desirability as a publication outlet.

The Problem of How to Handle Increased Demand for Journal Space

One question posed the likelihood that the growth of clinical psychology was going to bring a significant increase in the number of publishable contributions of clinical psychologists. It proposed four possible solutions, with space for another if the respondent wished it, and asked him to rank order these. The proposition, "Have certain existing journals appear more frequently (e.g., monthly instead of quarterly)," came out with both the highest proportion of first choices and also the highest mean rank (1.9). The proposition, "Expand existing journals in size (more pages per issue)" follows closely, with a mean rank of 2.0. A mean rank of

2.8 was given the proposal, "Establish a new journal (which might be an official journal of the Division)," and the proposal that had been urged in an earlier report of this Committee, "make more use of less known journals to which members of our Division do not at present submit many articles," received the lowest mean rank (3.5). It seems clear, therefore, that most respondents would rather stick to the known and familiar outlets and get more in them by one means or another.

Twenty per cent of the respondents wrote in other suggestions. Altogether, 12 per cent of the sample were dissatisfied with the quality of much that is published, and feel that higher rejection rates would solve the problem and improve the quality of our journals.

The second most popular write-in answer advocated more condensation of articles as a way of keeping up with increased demand; but this was mentioned by only 2 per cent. The remaining answers were scattered over a wide variety of ideas, including proposals that journals be published on microcards, and that journals be done away with entirely and all articles published as "separates." A number of these write-in suggestions were actually very close to the first proposition, that a new journal be established. One respondent suggested specifically about the fourth proposition that it would be a good idea to "include more of the lesser-known journals in the APA or special division coverage at reduced rates. This would increase both publishing and readership" in these journals.

Finally, a senior person in the field wrote: "I think we have more than enough journals in the field of psychology. If more outlet is really needed, increase the number of pages or frequency of issue of the crowded journal. Papers get held up because of publication lag—that could be remedied by publishing more pages in each number of any journal and then starting a new volume whenever the stated number of pages is reached, as the *American Journal of Physiology* does now."

The Problem of Condensing Articles

The questionnaire presented some of the arguments on both sides of the current controversy over the condensation of articles in psychological journals. The majority indicated that they have not noticed or haven't been disturbed by the move to cut the length of psychological articles, and more respondents favored an increase in condensation than chose the statement "the trend toward condensation has gone too far."

The problem of condensation is intimately related to that of the American Documentation Institute and microfilming. Several questions about the ADI were included, since it has been proposed as a possible solution to some publication problems. Two-thirds of the respondents said that they had heard of the ADI before reading the questionnaire, but only 5 per cent had ever written ADI to get a microfilmed document. The question, "Do you have ready access to a microfilm reader?" drew more *don't know* and *no answers,* 16 per cent, than any other in the questionnaire. Of those who did know, more than half answered "No." Yet 60 per cent of all respondents indicated that they think the ADI approach to shortening articles is a good idea.

Individual answers did mention a few other objections to the ADI: A few persons each objected on the basis of unavailability of readers, the delay involved, and the difficulty of storing microfilm, particularly keeping it with the journal or reprint. The point was made by several respondents that sending something to the ADI is essentially burying it. One wrote, "inconvenient or not, pertinent tables *should* be with the text. Will prevent incautious generalizations otherwise occurring if author knows only a few people will write to ADI."

Possible Changes in Format and Policy for APA Journals

Format. Clinical psychologists are either suggestible or on principle opposed to tradition, one might think in looking at the answers to three questions which proposed possible changes in journals. On the proposal to have a uniform page size for all APA journals a clear majority were in favor (only 7 per cent opposed). Despite the large number of people (about one-third of the respondents) who didn't seem to care about the issue, several wrote in enthusiastic endorsements. An editor of an APA journal was one of several who suggested a sort of compromise: one large size for the *Abstracts* and the *American Psychologist,* and a uniform smaller size for all the others.

There was more nearly an even split on the question in which two possible changes in make-up of articles were pitted against the status quo. A small plurality favored running one article on immediately after another, doing away with wasted half

pages. The remainder were evenly split between the idea of a separate "signature" for each article, a la Murchison, and the proposal to continue present practices. Despite the presence again of a few people with strong feelings about both of the innovations, there is no clear mandate here.

Book reviews. The final question suggested a possible change in policy: that editors invite authors to submit rejoinders to reviews of their books. About two-thirds of the respondents favored this proposition, and only about one in seven was definitely opposed. There were quite a lot of write-in answers commenting on this proposal (about 7 per cent); the burden of most of them was that it was a good idea in principle, but editors would have to be quite careful to prevent bickering and squabbling without scientific content or profit to readers. Many qualified their approval by saying that the printing of rejoinders from authors should not be made a regular practice, but that allowing the author an opportunity to reply to misinformed or obviously biased criticism was a fair principle. One sensible suggestion was that whenever possible, the author should be given a chance to see the review and correct any misunderstandings or misinterpretations by direct correspondence with the reviewer *before* publication, still letting the reviewer express his own evaluation of the book.

Miscellaneous Comments

At the end of the questionnaire, space was provided for members to comment on any matters pertaining to publication outlets. Seventy-three respondents (19 per cent) did so. The following summary includes all of the important points that were made.

A good many respondents wrote with more or less heat about the bad ratio of quality to quantity in current psychological literature. Some dealt mainly with the general problem of style, stressing not only the need for less verbosity but for greater simplicity, clarity, and readability in psychological writing. Another suggestion was that better summaries, invariably accompanying articles, and more uniform structure of the articles themselves, would save the time of readers. A number of respondents were impelled to speculate about their colleagues' motives for writing so poorly and so frequently. A couple of people took passing swipes at pseudo-intellectualizing and pedantry, but mostly the emphasis was on "piddling attempts at hollow prestige by having one's name in print" and "the pressure by institutions for publications."

On the positive side, a couple of members took advantage of this opportunity to plump for certain kinds of material that they would like to see more frequently in print. One of them endorsed the publication of curricula vitae of authors in the manner of *Psychiatry*. Another thought that there should be positive encouragement of articles "which carefully repeat radical, unusual or controversial studies."

Many of our members seem to have a great deal of faith in editors, for they are willing to solve the problem of the increased number of manuscripts seeking publication by allowing the editors to exercise their judgment more stringently. There is a very vocal minority, however, who strongly believe that there are dangers in such a procedure.

The principal remaining topic about which a group of respondents commented was a felt need for more differentiation and specialization of journals. "I suggest a more definite definition of the scope of each journal, to minimize overlap and assist the writers in selection of the appropriate journal."

Several respondents raised the question of monographic publication and its cost, one calling for a monograph series in clinical psychology. Another wrote: "We need a new journal which will accept longer articles such as Ph.D. dissertations. I realize that many dissertations are so long as to require a monograph and cannot be published in the usual journal. However, many can be cut to 25 or 30 pages without doing too much damage to the content." And another: "What we lack most are more possibilities to publish short scientific monographs which cannot be published as books nor articles."

A couple of respondents suggested a special "digest" journal, to print longer summaries than are available in the *Psychological Abstracts* of the current literature in abnormal and clinical psychology. A similar idea has already been suggested to the APA Publications Board by this Committee. A logical extension of this point of view was expressed in a long and thoughtful comment. "A solution that suggests itself to me is that we have a reprint system of publications rather than a journal system. An author of a paper would send his article to a central APA Editorial Board. This board would refer the

article to an appropriate subcommittee for acceptance. If accepted, it would be printed as are our current reprints, and an abstract would appear as usual in *Psychological Abstracts*. APA members receiving the *Psychological Abstracts* would decide on which articles they cared to purchase and would order only those relevant to their current needs. Its main disadvantage is a long time-lag between printing and getting a reprint into the hands of the reader. However, a goodly number of readers are still dependent on *Psychological Abstracts* anyway. [This delay would probably be more than compensated for by the elimination of lag between acceptance and publication.] There are a number of advantages: For example, you buy only what you need; articles are always available from the APA; uniform format for binding into books; the collection of a reprint library, which few can do under the old system, becomes available to everyone."

In one place or another, a total of three readers criticized the questionnaire sharply as biased and unfair. Two of them made rather vague comments about "attempts by a particular group within the profession to gain advantages at the expense of the needs of the profession as a whole" or "a group (presumably not now controlling a publication) which would like to maneuver the APA into establishing a new journal whether or not the need for such actually exists."

SOME POSSIBLE SOLUTIONS

It takes at least three months to prepare an issue of a journal, from mailing of articles to the printer to distributing the journal. Editorial work, revisions, and reading of manuscripts by consulting editors demand a few more months, but there are very few who will argue that there is any positive need for delays of more than six months between the acceptance of an article and its appearance in print. Yet for most of the APA journals, there has been a steady increase in this publication lag during recent years. Members of the Division 12 are becoming more acutely aware of, and displeased with this situation, as are the editors. The great increase in the number of manuscripts received undoubtedly contributes most heavily to the lag problem. Clearly, with many more manuscripts from which to choose, editors must either up their rejection rates sharply or else increase the wait for publication, if they do not have a constantly growing capacity in their journals. According to APA editors' reports for the past few years the average rejection rate has stayed at just about 50 per cent, though it is higher for the two journals of greatest concern to clinical psychologists, the *Journal of Abnormal and Social Psychology* and the *Journal of Consulting Psychology*, going in three years from 54 to 60 per cent. We know in addition that editors have found ways to publish more articles, by reducing their average length and by increasing the number of words per issue. Not a great deal more can be done to accommodate even more articles by these same expedients.

There is every reason to believe that the growth of psychology is going to continue, and with it the number of contributions to technical journals is bound to rise correspondingly. What possibilities for coping with the situation exist?

Raise standards. Our surveys both of editors and of divisional members indicate a widespread dissatisfaction with the quality of much that is published in clinical psychology. If all of the trash, all of the ephemera, all of the space fillers could be eliminated, there would be a great deal of room for more solid contributions. This, in fact, is a solution urged by many persons, but this Committee gives it only its cautious and limited endorsement. Such caution is necessary for two reasons: first, because editors are not all-wise. Some of our members already feel that editors are exercising their power to discriminate against points of view that they happen not to agree with personally. This is an exceedingly difficult spot on which to put a fallible human being. One of our editors wrote: "I think that your Committee underestimates the role that merely personal inclination would play if editors began to publish only the 'super-best.' A great many mss. that any editor receives are good; a few stand out as very superior; but if we limited publication to just the few that all would agree are superior, we would exclude from our publication many contributions that are, in fact, very useful." And who can have the breadth of vision to know what is going to appear relevant and useful 20 or 100 years from now? A second difficulty is that the editors of the most sought-after journals are already rejecting more manuscripts than they are accepting, while editors of the smaller and less prestigious ones are having to scrabble pretty hard to fill issues and frankly admit that part

of what they do print is "filler" or "trash." If they were to raise standards without doing anything to get markedly more material from which to choose, they could not meet their commitments to appear at regular intervals with a given number of pages.

Condense articles more. There is still plenty of fat that can be squeezed from many an article, and undoubtedly many would read better with less verbiage. Unfortunately, however, psychologists do not agree on what they consider surplus baggage. Some think that all reviews of the literature are expendable, while others feel that such introductory materials are invaluable in many an article. This is only an example, which could be multiplied for several other aspects of articles. Another fact of life is that some people simply do not write well, and no amount of harrying by an editor is going to turn them into accomplished stylists; yet the scientific value of their obscurely written stuff may be great. When and if all psychologists have microfilm readers, and their use is a part of the accepted folkways of the profession, the American Documentation Institute may be a big help; as it is, relegating something to the ADI effectively buries it for the vast majority of readers. It is, then, a possible but as yet not a wholly desirable way of helping achieve the aim of condensation.

This Committee's recommendation is that editors continue to bring pressure to bear on authors to write concisely and clearly, with a minimum of verbiage. In spite of the fact that the majority of our respondents were not alarmed by the trend toward condensation, we note with dismay the emergence of a general policy of omitting introductory reviews of the literature, detailed expositions of method, complete tabulations of results, and full discussion of the significance and implications of findings. In our view, the needs of saving space are secondary to those of continuing to provide the kind of full communication of scientific labor that our journals have provided in the past. Two antithetical trends are developing: On the one hand, clinical psychology grows more complex and subtle, its body of accumulated knowledge larger, its experimental designs more sophisticated, and there is a strong trend towards large-scale, long-term, multidiscipline research. On the other hand, the results of these increasingly large and complex investigations are expected to be compressed into ever less space, as the average length of printed communications continues to decrease! This is a paradox. If it does not become possible to reverse the second trend, the first may have to give way, and a premium may be put on small attacks on limited problems using simple designs. Many of the best scientific studies are of the latter kind, and we have no prejudice against them. We believe, however, that the development of a science should not be influenced by purely extraneous considerations such as the number of pages available to an investigator in which to communicate his findings to his colleagues.

Use space more efficiently. Costs go up by the word printed, but even more by the page, and anything that can be done to increase the number of words on a page without sacrificing legibility and other desirable qualities may help. Most journals have already gone about as far as is possible in the use of double columns, narrow margins, smaller print sizes, and the like. About the only thing that is left is the practice, distasteful to many, of starting a new article immediately at the end of the preceding one, if there is as much as a quarter of a page left over. This produces a result that is unpleasing to the eye of many readers; it causes a few who like to break journals down into the individual articles to tear their hair. Some members of the Division feel that more use could be made of small print, but the Committee considers this a doubtful expedient if carried beyond present practices.

Increase size and/or frequency of journals. Another way to get more into the same journal is to have thicker issues or more of them per year. This of course raises costs, which have already been going up anyway due to the general inflationary tendencies of our economy. More publication also means more editorial work, and the APA's journal editors are doing their publications jobs mostly for love and duty, mostly on off-hours from their regular jobs. The time may be approaching when we shall need full-time paid editors, after the fashion of the American Medical Association. The recent centralization of many of the routine chores at APA headquarters in Washington has undoubtedly helped a great deal, however.

Part of the problem may be caused by our acceptance of the unexamined assumption that journals must continue to appear with so many pages per issue and so many volumes per year. Not all journals actually operate this way, though all the APA's journals do. Following the precedent of the

physiological journals cited above, a quarterly journal might continue to appear on its usual date, but include in an issue all of the publishable manuscripts that were ready for the printer at that time. This would mean fat issues sometimes, thinner ones at others, and (considering present backlog) probably more than one volume per year for a number of journals. As soon as the announced number of pages per volume had been reached, a new volume number would be started, and subscribers would be billed accordingly. This means that subscribers would have to undertake to get the journal by volume rather than by year, and they would have to absorb all of the increased cost of printing more articles. Irregularities of this kind make librarians scream, and this proposal would undoubtedly complicate the APA's bookkeeping if it were adopted. Yet this device could completely overcome the problem of publication lag.

Spread the load. All of the above is necessary only if one accepts the further assumption that the increased production of clinical articles has to be absorbed by the currently most popular journals. As our past surveys have shown, there exist besides the clinical "big three" many less well-known journals whose editors are not only willing but extremely eager to get good manuscripts and publish them; such journals usually have short publication lags. They usually have small circulation figures, too. An author can hardly be blamed for wanting to bring his work to the attention of the maximum number of his colleagues. There seems to be no *rational* reason why the *Journal of Consulting Psychology* should be doubled in size, instead of having the output that would be printed in the new issues go into (to mention a few examples) the newly reorganized *Journal of Clinical and Experimental Psychopathology, Rorschachiana, Group Psychotherapy,* or *Psychological Service Center Journal.* But psychologists are people, not rational beings. They know, trust, and like a few favorite journals; in these they themselves want to publish, and these are the only ones they want to subscribe to, even if the subscription fee has to go up. To spread out the load by having the editors of popular journals pursue a vigorous policy of suggesting other specific journals to authors of articles they are not anxious or able to print would solve part of the problem, but certainly not all of it. It would be hardest on psychologists who are located away from large university libraries and who do not have access to many journals. The problem, after all, is not to get the stuff into print but to get it into the hands of people who want to use it.

Start a new journal. If there are lots of journals already, some of which are struggling to get along, why start a new one? The unpopular journals may be caught in a vicious circle of low circulation and not many good manuscripts from which to choose; the establishment of a new official APA journal would practically ensure a large subscription list to start with. When existing journals have expanded to the point where their editors can no longer keep their heads above water, the editorial load can be lightened by getting a new editor or editors for a new journal. The APA has no desire to become a publishing monopoly, however, and its Publications Board has indicated its intention of going very slowly and being conservative about establishing new journals.

Some more radical solutions. Two ideas that have caught the fancy of a number of members of our Division start from the assumption that maybe we don't need to think in terms of conventional journals in the first place. One idea would be to make use of recent technical advances in microfilm. On a microcard, the size and thickness of an ordinary 3-by-5 file card, 60 pages or more of a journal may be reproduced and easily read through an appropriate viewer. Files of back issues of journals are being successfully sold this way today. If all psychologists had such reading machines, the cost of publishing, storage space, and similar problems could be tremendously reduced. Another idea, which has been considered in the past by APA committees on publication, is the proposal to do away with journals and publish each article separately, somewhat after the fashion of the *Journal of Psychology.* There could be "immediate" publication, but there are a number of headaches involved in working out an adequate system of distribution and finance. Both of these proposals are perhaps too radical to win very wide acceptance in the near future, though there is much to be said for them.

The problem of monographic publication. Monograph series have usually been reserved for long contributions that cannot be boiled down to article length. Yet under the present policies of the *Psychological Monographs,* many so-called monographs are being published that actually contain no more words than many journal articles. It seems to this

Committee that there is a real need to keep monograph series for the longer communications. Undoubtedly, many of the monographs that appear ultimately looking like ordinary papers started out as weighty-looking affairs when they arrived at the editor's office. We believe, however, that when the editor becomes aware that the manuscript he is considering has no more in it than needs the ordinary journal article as a publication medium, he should return it to the author as unsuitable for his monograph series, with a recommendation to publish it as an article. This recommendation would have no weight if there were an unlimited amount of space available in monograph series for either long or short contributions, but when there is competition for limited space, we believe that space should be reserved for long studies.

Publishing monographs is expensive, and although reports of a few years ago seemed to indicate that the APA publishing enterprise was making money, latest figures indicate the opposite. This is not a very opportune time, perhaps, to make the following suggestion, but we believe that the principles involved are more important than any kind of opportunism. It is unfair and anomalous to charge authors for the right to publish something as a monograph instead of as a series of shorter articles. The fees received from authors of monographs come to a very small amount compared to the budget of the APA's publishing enterprise as a whole. As long as this relative state of affairs exists, it seems to us that the cause of science and scholarship will best be served if lack of funds does not prevent an author from publishing a worth-while scientific contribution of major size.

The problem of financing publications. The excellent report by Fillmore H. Sanford in the September, 1952 *American Psychologist* on finances of APA publications clearly highlights the general problem of paying for our journals, and the trouble that lies ahead. He reports a recent recommendation of the Publications Board that authors be charged a flat rate (probably $2 or $3 per page) for publishing in any of the APA journals and not be charged according to the amount of tabular or special material included. Such a recommendation, in this Committee's opinion, represents a move in the wrong direction. Scholars have never been noted for their loaded pockets, and putting a financial premium on publication will mean that the financially favored few will have an unfair advantage. We do not quarrel with the principle of discouraging obsessive indecision by making authors pay for changes in proof that are not due to printers' errors. We do disagree with the long-run wisdom of charging authors for publication generally, or for tables and graphs, which may often shorten articles, increase their comprehensibility, or even be necessary due to the nature of the investigation. It would be nice if scientists could be financially rewarded for doing their work, as is customary in other sectors of our society, but it seems plain foolish to punish, by means of a fine, their efforts to make contributions to their science.

The Committee believes that custom and presumed necessity have blinded most psychologists to the implications of this state of affairs. We think that it is time for the APA to take a look at the problem from a larger perspective. In modern rationalistic and technological society, the continued advance of all the sciences, including clinical psychology, is an absolute necessity. So far, society has taken very little formal recognition of this necessity and of its responsibility to ensure and facilitate scientific development. In recent years, however, large private foundations and the government, through the research programs of the armed services, United States Public Health Service, and now the National Science Foundation, have begun to accept the responsibility by increasing their support for research. All too often, however, such support does not follow through to underwriting the final crucial step: getting the results of the work into the mainstream of scientific communication. No matter how good a piece of work is, if only its author knows about it, it can hardly add much to science. Furthermore, the profession and art as well as the science of clinical psychology involve many kinds of work other than subsidized research, and surely the experimental report is not the only kind of communication that deserves financial backing.

This Committee therefore has recommended that the Publications Board of the APA request the National Science Foundation to give serious consideration to the whole question of the financial support of scientific publications, for other sciences as well as psychology. If this government agency is not able to work out a pattern under which the needed support can be given, the Publications Board is urged to explore the possibility of getting funds from private foundations. Failing help from these

sources, we believe that any gap between income from the sale of current and back issues of journals and the total cost of producing them should not be a burden shouldered by individual authors. The financial support of their journals should be the responsibility of the entire membership of the APA.

ROBERT R. HOLT, *Chairman*
JOHN W. CHOTLOS
MARTIN SCHEERER

Comment on "Publication Problems in Psychology"

The report from the Division 12 Committee will be most helpful to both the Publications Board and our editors. Similar studies from other interest groups would aid in maintaining an adequate and balanced publications program. The able analysis by the Committee has taken into account all aspects of our difficulties, and the recommendations are in general consistent with recent Association actions. The following comments may clarify the current status of some developments.

In the past two years some significant changes have been made. The Publication Manual issued in 1952 will go far to define the scope of each journal. Shifting to double-column format in various journals has reduced cost. Printing of articles in offprint form now fulfills some of the same aims as printing of "separates" would.

Other problems are under study. Uniform format among journals would become more feasible if the APA were to buy a press and print its own journals, which may soon be wise. The Central Office is likewise studying possible ways to use microcards.

Most suggestions regarding changes in publications come down to proposals for expansion. Each expansion costs money. The money might come from increased dues or increased subscription rates, but we seem to have neared the limit for such increases. When higher prices cause members to drop subscriptions, everyone loses. The Publications Board believes that the cost of publication is one of the costs of research, and *should be borne chiefly by the institution* which is supporting the research. We are actively seeking ways to obtain financial support for publication from government agencies, universities, and other institutions which are supporting the current expansion of research. Foundations will be able to help in specific ways, but will probably not underwrite a general expansion of outlets.

The Committee misunderstands the Board's current proposal to charge all authors a small flat rate per page. The present practice is to charge for tables and figures only; these costs are high, and are now a "penalty" upon that fraction of our authors who choose to use tables rather than words for their communication. The flat rate is designed to spread such charges among all authors equally. The plan does not make authors as a group bear a larger amount of the cost of publishing. The sole purpose of the change is to avoid favoring one class of authors over another.

Everyone concerned with publication is between two millstones: the increasing volume of production and the inelastic limit on funds that can be provided from Association members. Some expansion will be necessary, but the Association cannot expand publication in proportion to the flow of manuscripts. Members should welcome and strengthen the independent journals which are able to carry part of the load.

Service to authors is *not* worsening rapidly. For the *Journal of Consulting Psychology*, 1948–49, 156 manuscripts were accepted; for 1951–52, 197. Rejection rates were 48 and 54 per cent, respectively. Median lag rose only from eight months to nine months during these five years. The editor indicates that he can keep up this service if he continues to select *superior* contributions for publication; if he were asked to follow an "archives" policy of publishing all articles which make *some* contribution to the field, the journal would have to expand by 50 per cent.

It is opportune here to underline the Committee's words of praise for our editors. Our publications could not exist without the long hours of labor volunteered by some of the most able psychologists. On a salary basis alone, this service would be worth tens of thousands of dollars; but our editors perform at a level of devotion and wisdom that is beyond price. It is this behind-the-scenes contribution of a few men that gives us a publications program to be proud of.

LEE J. CRONBACH
Chairman, Publications Board

REPORT OF THE *AD HOC* COMMITTEE ON THE CENTRAL OFFICE

IN January 1953, President Shaffer, acting upon instructions from the Board of Directors, appointed an *Ad Hoc* Committee to study operations in the APA Central Office. The Committee met with the senior members of that office's staff by prearrangement on February 7.

As a background for the Committee's task it was given a summary picture of the current functions and operations of the Central Office. This was accomplished through presentations and discussions by the Executive Secretary and the senior staff responsible for the "departments" of Finance, Administration; Employment and Public Information; Membership, Directory, and State Societies; and Editorial. These departmentalized activities appeared to be a happy marriage of individual interests and competence with the functions which the Central Office is expected to perform. At the conclusion of the briefing the Committee was left with the feeling that the APA Central Office staff was a "good group" in the psychological sense and was functioning quite effectively to accomplish a large volume of important work for the Association. Staff morale appeared to be high. Pride in the new building was combined with thoughtful concern for how this fine facility could be used to increase the contribution of the Central Office to the purposes of the Association as defined by its membership.

Having devoted approximately a half-day to the foregoing, your Committee spent the remainder in discussion with the Executive Secretary and in executive session. Discussion with Dr. Sanford ranged from consideration of samples of his daily correspondence and other paper and supervisory work load to matters of general policy and practice. What the Executive Secretary or the Central Office might or ought to do in addition to what is now done was considered. In the Committee's view the Executive Secretary is to be commended on his concept of his role. He has keen appreciation of the importance of evaluating the Central Office both in terms of its potential for aiding the realization of Association goals, democratically determined, and in terms of organizational efficiency as a business enterprise fast approaching a half million dollars per year.

As a result of its executive session the Committee arrived at two major conclusions which are unanimous:

1. The senior professional staff of the Central Office should be augmented at the earliest practicable date by one person at the salary level of Drs. Albee and Bouthilet in order that the Executive Secretary may be freed of many day-to-day operational details in favor of longer range professional activities.

2. The Central Office is accomplishing its prescribed and generally accepted functions in an increasingly efficient fashion which will be enhanced by the fine facilities afforded by the new building. Its staff's morale is excellent. However, both its staff and the Association should benefit from the opportunity to consider the problems arising in the Central Office with an interested group of the Association membership at least once annually.

The first conclusion stems from our understanding of the history of the Central Office and the primary reasons for putting it in Washington. It is our belief that the Executive Secretary should devote much more time, than he is now able to do, to making outside contacts among higher echelons of the federal and state governments and among scientific and professional circles including the state psychological associations. From the briefing session it was clear to the Committee that much time is already required and more will be needed to plan, initiate, direct, and supervise the fiscal and operational aspects of the Central Office as a business enterprise. Staff members recognize that activities in need of more attention include the sale of back issues of publications, advertising in APA journals, and other business and fiscal features of APA operations. It seems clear that the Executive Secretary, as the senior professional member of the Central Office staff, should have such assistance as will permit him to structure his job in terms of what appears to be most important for his personal attention. Operational tasks have become so numerous and time consuming that the Secretary and his assistants are in danger of having their energies completely absorbed by them with little or no time left for thoughtful contemplation of the over-all

mission of the Office and how better to attain it. Adding another senior professional psychologist will permit the Secretary to re-allocate areas of responsibility so that he has the needed time to develop very important functions such as those indicated above.

Regarding the Committee's recommendation that a similar *ad hoc* group be constituted from the membership at large for an annual survey of the Central Office, it should be understood that we believe the membership needs such first-hand stimulation of its thinking about Central Office function and operation. Grass roots education in and reaction to the Central Office should promote healthy discussion and informed opinion about it among an ever widening circle of members. Thus may its purposes be gradually clarified, defined, and communicated to those primarily responsible for their accomplishment to the end that the Central Office of the American Psychological Association will be widely regarded as "the best in the business."

In conclusion we wish to point out that this is a report of impressions derived from a rapid, molar survey rather than a detailed organization and methods study. The Committee did not conceive that the latter kind of study was either intended or needed in view of the quality and size of the staff involved.

Ad Hoc COMMITTEE ON THE CENTRAL OFFICE

DONALD E. BAIER, Chairman
THOMAS G. ANDREWS
CARROLL L. SHARTLE (ex officio)
DENZEL D. SMITH

DOCTORAL TRAINING PROGRAMS IN CLINICAL PSYCHOLOGY AND IN COUNSELING PSYCHOLOGY

APPROVED BY THE APA EDUCATION AND TRAINING BOARD, WITH THE CONCURRENCE OF THE BOARD OF DIRECTORS, APRIL, 1953

ON recommendation of the Committee on Doctoral Education, the Education and Training Board of the American Psychological Association, with the concurrence of the Board of Directors, has approved the doctoral training programs in clinical psychology and in counseling psychology which are conducted by the institutions listed below. Training programs which have not requested evaluation and programs which have been evaluated but not approved are not included in the lists.

Inclusion of the name of an institution in these lists indicates approval of doctoral training in clinical psychology and in counseling psychology only; inclusion or non-inclusion carries no implications for other graduate programs in psychology or for programs of graduate education in other disciplines.

The clinical training programs at the institutions here listed are differentiated by roman numerals (I or II) to indicate over-all differences in the strength or quality of these programs. "I" is the higher rating. Some of the institutions listed were visited in 1952–53; others were visited in 1949–50, 1950–51, and 1951–52. Evaluations of schools not visited in 1952–53 were made on the basis of interim reports submitted by the departments of psychology. Current ratings are therefore based upon the results of the last visit and upon interim reports prepared by each school and submitted to the Committee. The programs in counseling psychology (vocational) are listed without differential ratings this first year, since some of the programs are still developing, and evaluation criteria are not as well established.

The institutions so listed have been reported to the U. S. Public Health Service, to the Veterans Administration, and to the Surgeon General's Department of the U. S. Army as conducting at the present time an approved program of doctoral training in the areas indicated.

DOCTORAL PROGRAMS IN CLINICAL PSYCHOLOGY

Boston University (I)
Buffalo, University of (II)
California, University of (Berkeley) (I)
California, University of (Los Angeles) (I)
Catholic University of America (I)
Chicago, University of (I)
Clark University (I)
Colorado, University of (I)
Connecticut, University of (II)
Duke University (I)
Florida, University of (II)
Harvard University (I)
Illinois, University of (I)
Indiana University (I)
Iowa, State University of (I)
Kansas, University of (I)
Kentucky, University of (II)
Michigan State College (I)
Michigan, University of (I)
Minnesota, University of (I)
Nebraska, University of (II)
New York University Graduate School of Arts & Sciences (II)
North Carolina, University of (I)
Northwestern University (I)
Ohio State University (I)
Pennsylvania State College (I)
Pennsylvania, University of (I)
Pittsburgh, University of (II)
Purdue University (I)
Rochester, University of (I)
Southern California, University of (I)
Stanford University (I)
Teachers College, Columbia University (I)
Tennessee, University of (II)
Texas, University of (I)
Vanderbilt University, with cooperation of George Peabody College for Teachers (II)
Washington, University of (Seattle) (I)
Washington University (St. Louis) (I)
Western Reserve University (II)
Wisconsin, University of (II)
Yale University (I)

DOCTORAL PROGRAMS IN COUNSELING PSYCHOLOGY (VOCATIONAL)

Boston University
California, University of (Los Angeles)
Colorado, University of
George Peabody College for Teachers, with cooperation of Vanderbilt University
Illinois, University of
Iowa, State University of
Maryland, University of
Michigan, University of
Minnesota, University of
Missouri, University of
New York University Graduate School of Arts & Sciences
Ohio State University
Pennsylvania State College
Pennsylvania, University of
Purdue University
Teachers College, Columbia University
Texas, University of

Comment

A Note on Elementary Psychology

Improving Undergraduate Instruction in Psychology [1] reports on the deliberations of a group of teaching psychologists which met under the chairmanship of Dael Wolfle during the summer of 1951. The present note is not intended as a review of that report, but instead is an effort to correct a possible misinterpretation of the writers' views as quoted in that report.

After recommending a departmental curriculum firmly rooted in the traditional rubrics of psychology, the report devoted chapter III to the Committee's reasons for not including "personal adjustment" courses. In support of their position, four quotations were taken from an article written by Castore and Berrien [2] which distort our views. For example, we were quoted: "The confusion expressed by the students is directly traceable to the vagueness of objectives held by the Staff. Courses taught by the case method are often characterized by fuzzy, generalized, non-specific objectives. This is particularly true of the new courses in Human Relations." And again: "Unless transfer of course skills to everyday life is made a clear objective and measures are specifically developed to meet that objective, it is doubtful if the objectives will be achieved."

In the first place, the course discussed in that article is not the kind of mental hygiene personal adjustment course which the Committee apparently had in mind when they recommended (we think unwisely) its banishment from departmental offerings. The human relations course is briefly and inadequately described as the social psychology of face-to-face relationships.[3] Our first complaint against the Committee is, therefore, that the quotations from our article supporting their stand are irrelevant. They are irrelevant first because we were writing about a different kind of course, and second because we were making no comparisons between one kind of course and another. Our apparently adverse statements regarding human relations courses might apply also to traditional courses.

In the second place, the Committee would have caught more accurately the total flavor of that article if they had used the following quotation: "There is evidence that students could profit from orientation so that a number of insecurities associated with transferring from a traditional type of teaching could be reduced or possibly eliminated. . . . Since the case method, as used in colleges, is a relatively new development in the field of teaching of Psychology or Human Relations, there is need for examining some of its desirable and undesirable features. *Lest the wrong impression be gathered, the writers are impressed with the unique value of case method instruction.* Certain social and psychological material can perhaps be approached in only this way." Our second complaint is that the Committee inverted our meaning.

In an article which may not have been available to the Committee, one of us also said ". . . would the realization of the intricate nature of analysis, consequences, and conclusions cause a student to be more cautious, less easily aroused to spontaneous comments and inclined to weigh a response before offering it to the class? If so, lowered class morale (less talking) is a positive, rather than a negative state." [4]

To make our position clear, we want to say that even with its current and correctable deficiencies, the case method, in our opinion, is more appropriate to the first (perhaps only) course in psychology for college students regardless of whether they are liberal arts, home economics, engineering, or premedical students. This approach can be just as rigorous in demanding scientific attitudes and habits of thought as any traditional psychology courses. The case method demands habits of scientific thinking and continuous practice of those habits, whereas the traditional course generally teaches students *about* scientific thinking.

We hope the present statement will clarify any ambiguities that may exist regarding our position on the value of the case method of instruction in elementary psychology courses.

F. K. Berrien
Institute for Research in Human Relations
G. F. Castore
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[1] Wolfle, D., *et al. Improving undergraduate instruction in psychology.* New York: Macmillan, 1952.

[2] Castore, G. F., & Berrien, F. K. A student evaluation of a case method course. *Amer. Psychologist,* 1950, 5, 149–151.

[3] For further description of the course, see Berrien, F. K. *Comments and cases in human relations.* New York: Harper, 1951; or A new type of elementary course. *Amer. Psychologist,* 1947, 2, 148–150.

[4] Castore, G. F. Attitudes of students toward a case method of instruction in a human relations course. *J. educ. Res.,* 1951, 3, 211.

Psychology and Political Science

President Truman, in his farewell address, spoke of Lenin as a pre-atomic man whose historical predictions were based upon pre-atomic ideas. This statement, I

am sure, was not an act of psychological warfare on the part of the retiring President of the United States. (Perhaps "psychological warfare" is a contradiction in terms.) No lack of respect for the thinking of Lenin was indicated. For the enlightenment of future decisions, those of the Soviet executives, but no less those of future policy-makers in America and, indeed, in every nation, President Truman did indicate that a changed historical situation clearly has invalidated certain of Lenin's ideas.

I was reminded of this really profound contribution of the retiring President when I read in the *American Psychologist*[1] that some members of the American Psychological Association are asking why there has been so little liaison between psychology and political science. A collateral question was, "Why are economists and political scientists frequently called to high level administrative posts, while psychologists are not?"

The obvious and correct reply would be, "the fault lies not in our stars, but in ourselves, dear Brutus, that we have fallen so low." While the question at issue here is too large for any single observer to answer, I do want to offer, in the briefest possible terms, a few hypotheses about our deficiencies as psychologists, relative to the demands of high level public service.

Books and articles on public affairs, considered from a psychological viewpoint, have been forthcoming. Many of them, however, have suffered from a peculiar arrogance and a peculiar short-sightedness. The typical approach has been purely deductive. Public affairs have been treated as illustrations of psychological theories, and as vindications of some theories, or refutations of others. An "I told you so" type of attitude has been evinced in some of these treatises. "I told you that irrational forces play a great part." "I told you that frustrated people will be aggressive." All of us are familiar with such comments.

Neither the public nor those to whom the public has delegated special political power are primarily interested either in the vindication of theories or in preaching about the past mistakes of mankind. The only way out of any concrete, historical impasse is "forward." What can psychology contribute to the enlightenment of the decisions which either some "we-group" or "the other fellow" must make in a particular situation?

"Decision" is the key concept. The enlightenment of decisions is the task. A democracy of decisions is, perhaps, the goal. All special executive prerogatives may be interpreted in terms of trusteeship. Popular decisions are judgments upon trustee decisions. If psychologists can in any way help to enlighten trustee decisions or popular decisions, then the profession deserves high level public appointments. Otherwise, not. Concrete decisions, rather than segmental theories, are the objects of concern in the public life.

This should be made more specific. The psychologist in public affairs, national and international, for example, might develop techniques of publicity, information, consultation, and education which will help both leaders and followers to keep thinking and feeling in terms of an open field of decisions. Neurotic "obsession" or the freezing of semantic reference is the great and, perhaps, the only enemy of enlightened decisions anywhere in the world. Culture may be interpreted as a crystallization of past decisions. Few, if any, of the perils which have been conditioned by past decisions are wholly unamenable to amelioration by other decisions. The horrors which mankind faces are not essential traits of "nature" in us or around us, but rather are by-products of our denial of the potentialities of "the stranger" no less than of the ever sacred "self." The psychologist in public affairs of every type develops weapons not against persons or groups, or even against bodies of doctrine, but only against semantic freezing and all else that stands in the way of the very process of rational deciding.

To sum up, psychology holds a relatively low position in public affairs because, as a rule, its frame of reference has been one of deduction and self-vindication, rather than being historico-executive or historico-therapeutic. A swing to the other extreme could not be recommended. Balance is recommended. The public and its leaders, including many of those to whom the widest responsibilities have been entrusted, now sense a need for psychologists who are concerned with the enlightenment of concrete decisions. Good executive policies, anywhere in the world, could only come from nonobsessive self-definition. This, I believe, was the thought behind the ex-President's profound comment to which we referred above.

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[1] SANFORD, F. H. Diary of an Executive Secretary. *Amer. Psychologist*, 1953, **8**, 92–93.

The Missoula Institute

The second Intermountain West Psychological Institute was held at Flathead Lake, Montana, in September of 1952. The title "The Flathead Institute" did not become popular. The University of Montana, which sponsored the session, is located at Missoula, Montana. The rationalization resulting in a less critical title was not difficult for clinical psychologists to make.

Again the United States Public Health Service answered our appeal for funds with a grant to the psychology department of the University of Montana. The University of Montana sponsorship was a fortunate selection for several reasons. It gave us Dr. E. A.

Atkinson, chairman of the Montana University psychology department, who served so efficiently and graciously as host and coordinator. It was he who provided a most comfortable lodge on beautiful Flathead Lake. Since the resort season had closed, the desired isolation and freedom from distraction were obtained. (For the purposes of the institute, it was gratifying to learn that very few psychologists are ardent or successful fishermen.)

Perhaps the most fortunate circumstance of the Montana selection was the extension of area coverage it provided. States represented were Washington, Utah, Idaho, Montana, North Dakota, and Oregon.

In planning a program for the institute, the expressed wishes of the first institute group (the Alta Institute) formed our principal guides. Then feelings were strong for less theory and for more practical, workshop-like sessions in diagnostic testing and psychotherapy. So workshop sessions in these two areas were decided upon.

The next step was to bring together a faculty which could discuss clinical testing and psychotherapy. The faculty members also would need to serve as resource people for the assembled psychologists. For the sessions in diagnostic testing, it was decided that the staff should consist of experienced clinicians with a sound theoretical background. This bill was adequately filled by the team of Joseph Zubin, Fred Wyatt, and Robert Holt. William H. Brown chaired the diagnostic testing sessions.

The psychotherapy staff, we felt, should be separate and distinct from the testing faculty. It was decided to throw into the same arena a psychoanalyst, a nondirectivist, and an eclectic psychotherapist. This was planned purely for the purpose of providing equal representation of the three leading psychotherapeutic approaches. The Wild West has been tamed—we were not interested in stirring up range fights over fence lines nor did we want to separate our students into opposing posses. Ija Korner, the chairman of the psychotherapy sessions, had the job of maintaining law and order. Arthur Combs presented the nondirective point of view, Victor Calef of San Francisco represented psychoanalysis, and C. H. Hardin Branch, head of the University of Utah department of psychiatry, was the eclectic. The testing staff, of course, participated in these sessions. Joseph Zubin was particularly active in keeping before the group the organic aspects of a total personality.

So, the institute began. We learned at the first institute that rigid structuring and planning does not work. It was decided to have testing in the morning and psychotherapy in the afternoon. It was also necessary to decide who would lead off. Joe Zubin was elected; in an admirable fashion, his keynote address on "Models for Research" set a tone for the entire institute. Before the week was over, "model-talk" was heard everywhere, from the breakfast table in the morning to a songfest late at night. In the testing section, Fred Wyatt's "Rorschach in the Rockies" fell as "Manna upon Montana." Fred poured it out in night sessions as well, as evidenced by one student's comment that he learned more Rorschach in one evening with Dr. Wyatt than he had in all his courses at the university. Equally favorable comments were made about Robert Holt, his TAT, and his research methods. One impressed student remarked: "I used to think he was only a tester."

The psychotherapy sessions also had a happy ending, and an exciting beginning and middle part as well. The three approaches repeatedly led to Rome but Rome wasn't everyone's destination. Perhaps it would be more accurate to say that the final destination was a common one, but a common mode of transportation was not immediately agreed upon. By the last session, the whole group was on the same bus; of course, we couldn't all be in the same seat. All seemed to be fairly comfortable whether in the back seat, over the wheel, or up front.

Although psychotherapy per se was not taught, students and faculty agreed that much was learned. Credit for this must go to the psychotherapy staff and to their chairman whose careful driving kept the group out of ditches and detours. The personal appeal and the persuasive presentations of Art Combs, Vic Calef, and Hardin Branch had group members in a state of choosing and shifting sides until it became clear that the representatives of seemingly divergent techniques of psychotherapy were moving in one direction.

One other bit of structure was set up prior to the first session. The more or less formal presentation in the large group was followed by small group sessions. Students were assigned to a leader from the testing faculty in the morning and from the psychotherapy staff in the afternoon. There seemed to be some dissatisfaction over the assigning, so after the second day all faculty members were available for consultation during the small group period and each student was free to seek out the leader of his choice. This slight change evoked some of the most favorable comments of the entire institute.

To our great surprise, the workshop approach, requested by last year's group, fell flat. The faculty was geared to the practical, the students demanded theory. Of course, the staff needed little coaxing and the shift was smoothly made. The outcome was a happy one, judging by the students' comments concerning the nicely balanced diet of "theory, therapy, diagnostic testing, and research." Perhaps one group member was right when he commented: "The crew assembled for this institute could have discussed profitably and amiably any topic you could pick out of a hat."

In addition to clinical psychologists, the student body this year included a psychiatrist and several social workers. Another psychiatrist, Dr. Hans Huessy, attended the institute as an official observer for the supporting organization, USPHS. Dr. Robert J. Spratt, Director of Mental Health in Montana, and members of his staff visited the sessions for one day. Incidentally, the three disciplines worked and lived as one.

The reaction to the institute is contained in comments from evaluative letters written both by students and by faculty. Although all were enthusiastic, not all were completely satisfied. Oddly enough, what one member of the group listed as his most valuable gain from the institute experience, another member may have felt was lacking. It may be that each one, staff or student, took from the institute what he needed most.

IJA N. KORNER
University of Utah

The Contract Research and Development Program of the Personnel Research Branch, The Adjutant General's Office

MISSION OF THE PERSONNEL RESEARCH BRANCH

The mission of the Personnel Research Branch (PRB), formerly the Personnel Research Section, Personnel Research & Procedures Branch, of The Adjutant General's Office, is to conduct research and development projects with the objective of providing commanders and staff agencies of the Army with scientific bases for the more effective utilization of personnel. The scope of this mission includes psychological research aimed at improved selection, classification, placement, and utilization of personnel.

The following Army programs are directly implemented by such research: recruitment and induction, initial classification, assignment to military occupational specialties and to specialist schools, selection of noncommissioned and commissioned officers, and evaluation of performance for both operational and criterion purposes. This does not, however, exclude basic research. Frequently basic and applied research and development occur in the same project.

HOW PRB CARRIES OUT ITS MISSION

PRB maintains a substantial in-service staff of research psychologists and analytical statisticians with supporting clerical and administrative personnel to conduct a large portion of its assigned work. Nevertheless, much of its research is accomplished under contract with universities, research organizations, and consulting firms. The Adjutant General regards in-service and contract facilities as necessary partners in accomplishing basic and applied research and hence PRB meets part of its research requirements by contract.

Final decisions on letting contracts are rendered only after approval of the Army's fiscal, military, legal, and research representatives. It should be kept in mind that contract research, as well as in-service research, is conducted in response first of all to acknowledged military needs. Proposals to do contract research are hence subjected to review from the points of view of (1) the applicability of the expected end-products to Army personnel operations, (2) the desirability and feasibility of conducting the research by contract, and (3) the quality of the proposed research.

WHO MAY APPLY FOR A CONTRACT TO DO RESEARCH

Any qualified research man officially connected with a responsible organization—university, research institute, or consulting firm—may submit a proposal through his organization.

HOW TO GO ABOUT IT

We have found that person-to-person discussion provides the best way to discover common research interests and get started thinking together about a specific problem. The Adjutant General usually has representatives at professional meetings. They are there to meet with you and discuss possible contract research.

If it is not possible to see one of these representatives at the meetings, a visit to the office in the Wake Building, at Oklahoma Avenue and E Street N.E., Washington, D. C., may be made. Please communicate your intention well in advance so that appropriate people will be available. If you cannot come in, write to: The Adjutant General, Department of the Army, Washington 25, D. C., ATTN: AGTL, or telephone Chief, Contract Research Section, LIncoln 3–3668, ext. 471.

SUBMITTING A CONTRACT RESEARCH PROPOSAL

After the potential contractor concludes that he has in mind a research study which he wishes to present for evaluation in relation to Army requirements, he should reduce it to written form. While no stereotyped format is prescribed for a research proposal, it should include as a minimum the following:

1. A clear statement of the problem or objective, indicating how its solution or attainment will be of value to the Army's personnel program. In the case of exploratory basic research the possible implications must be spelled out. It is usually expected that contract research will result ultimately in some application, either in the form of research knowledge or method, or a personnel tool of known or potential value.

2. The specific hypotheses to be explored and the approach or research design to be used should be indicated as precisely as possible.

WHAT KIND OF RESEARCH?

In general, you are encouraged to submit your ideas for implementing our research mission as described above. Following, however, are some general areas of research in which work may be undertaken by contract during the next several months. If any of these examples happen to parallel your research interests, you are invited to discuss these with us, as well as your own ideas for contract research.

1. Development of aptitude and intelligence tests
2. Development of new measures of leadership potential
3. Construction and evaluation of job-sample criteria
4. Military utilization of scientific personnel
5. Further research on efficiency ratings
6. Statistical methodology studies.

CARROLL B. HODGES
Personnel Research Branch
The Adjutant General's Office

Defining the Field of Psychology for the Student

I have for some time been concerned about the serious misconceptions which college students often harbor with respect to the psychological science and profession. Occasionally even those students in upper division psychology courses reveal a startling lack of understanding about the professional activities in which psychologists engage or the training which is necessary for the professional psychologist. One's first impression is, of course, that the psychology department and/or specific instructors have not been doing their job in educating the student. Further, it would seem that the introductory psychology text should serve to clarify the general role of psychology in relation to other professions, the training necessary for the psychologist, and other related matters. While the psychology instructor and the introductory text must be a major source of enlightenment in these matters, it is likely that the student's and instructor's preoccupation with the large body of material which must be covered in psychology courses may make it difficult to cover adequately, in scope and detail, many of the important points related to the scientific and professional training and function of the psychologist.

There seems to be the added problem of defining the broader field of psychology for the student (and professor?) whose experience lies totally outside the psychology department. The numerous and searching questions about psychology and psychologists asked by those who have studied no psychology suggest the need for greater clarification of this question in the minds of most college students. In light of our general concern over the problem of accurately representing psychology to others, it would appear that the field may well be missing a golden opportunity for public education by often overlooking the broader college population to which psychologists have direct access.

These general considerations lead the writer to believe that the profession might profitably consider the advisability of making available for the psychology student, and those in other areas of the curriculum, a small and inexpensive publication devoted to defining the field. This would, of course, in no sense replace particular psychology texts, but would offer a briefer and more concise treatment of psychology as a science and profession. Such a publication could present a forthright discussion of the scientific and professional activities of the psychologist with a statement of the nature and extent of his recommended training. Of particular importance would be a discussion of the relation of psychology to allied fields such as sociology, psychiatry, and anthropology. A clear discussion of the scientific basis of psychological research and of certain basic postulates about human behavior would serve also to clarify the role of psychology in science generally. This presentation, along with a consideration of the broad areas of psychological study and of the types of jobs which psychologists fill, would, perhaps, reduce the confusion in the student's mind as to the place of the psychologist in relation to other vocations.

Colleagues in other disciplines have revealed to the writer their interest in such a source for reference purposes in the conduct of their courses and one (a sociologist) has indicated that it might be made required reading in certain of his courses if it were available at a low cost. It would seem likely that psychology instructors could make profitable use of this type of material as a supplement to assignments in various courses, and as an aid in counseling interested students with regard to the possible selection of psychology as a profession. To what extent this might be done is, of course, an open question; however, the presence of such a publication on the shelves of college book stores and libraries might invite a rather wide distribution.

Attempts to formulate something of the possible content of a publication of this type have convinced the writer that the job may be too diversified for a single psychologist. The representation of the profession in such a manner would seem to be a task which the APA could more effectively carry out through a committee of psychologists from all areas of specialization. Whatever the mechanics necessary in this type of endeavor, the result would probably be a more accurate understanding of our profession in the minds of college students and, ultimately, the general public.

EUGENE S. MILLS
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Across the Secretary's Desk

Science and Government in this Economy Year

During the week of May 25–29, George Albee and Michael Amrine contacted a score or more governmental agencies in Washington in the effort to find out the latest facts and predictions concerning governmental support of scientific research in general and of psychological research and services in particular. There is little doubt that the new administration's attitude toward science and its level of financial support for research will affect many psychologists. Some are predicting a depression—or at least a recession—in psychology. Others see a shift toward the harder, "safer," and the more obviously practical kind of research. Some see a definite anti-scientific and anti-intellectual undercurrent in the present Washington atmosphere. Some see a wholesome sanitization and tightening of governmental research programs. The Albee-Amrine report, presented here, gives psychologists some factual bases for judging these matters for themselves:—F. H. S.

I read in the papers of making a lot of promises that I did not make. But I did make one which shows I'm not as stupid as I sometimes appear. That was that we needed more research. Anybody who wants to limit the very modest appropriations for research better come out to Beltsville before they vote:—President Dwight D. Eisenhower, May 26, 1953, on a visit to the Department of Agriculture's research station at Beltsville, Maryland.

With special reference to the battery additive (ADX-2) controversy at the Bureau of Standards, the Federation of American Scientists recently asked President Eisenhower to clarify the Administration's attitude toward the relationship between science and government. The Federation, an organization concerned with the social values and utility of science, asked Mr. Eisenhower for assurance that:

1. The integrity of Government scientific operations will continue inviolate.
2. The tenure of Government technical employees will depend on performance alone.
3. The Government will continue to encourage, by policy and financial support, a high level of scientific productivity.

As this is written, no statement from the White House or any other governmental body has specifically answered these questions.

Scientists in Washington were dismayed that the Secretary of Commerce, in yielding to the demands of numerous scientific associations for an impartial outside study of the merits of the battery additive, ADX-2, said that regardless of the results of the test, Dr. Allen Astin, head of the Bureau, would still have to go. In addition, the Departments of Commerce and Defense have agreed to take many defense research projects away from the Bureau and place them elsewhere in the government or with private industry. Many businessmen share the outlook implicit in this comment from the magazine *U. S. News and World Report:*

Charles E. Wilson, Defense Secretary, has agreed that private industry can do much of the work in applied science that now is being done for the military services by the U. S. Bureau of Standards. The result is that industry may begin to get access to a number of trained scientists who now are engaged in Government work.

Most scientists familiar with contract research problems believe such a policy, if carried through in other departments, would be more costly to the taxpayers, result in higher pay for those scientists who would go to work for private contractors, and be of doubtful value to the progress of the fundamental research involved.

In this report we will not attempt to answer the subjective questions involved. Many of them must wait the outcome of budget hearings or an understanding of how reorganized agencies will work. Without a crystal ball no one can foresee, for example, the result of the Defense-Joint Chiefs of Staff reorganization plan which recommends the abolition of the Research and Development Board. Will the proposed method of placing research activities under the direction of an Assistant Secretary of Defense mean less duplication of research and more effective progress, or will it produce more confusion?

Contract research in psychology seems almost surely destined to be curtailed if the present temper of Congress is maintained. The current annual federal expenditure of about $11 million for contract research in psychology and closely related fields has resulted in enlarged research and training facilities both in universities and in private agencies. If less contract money is available, there will be a decrease in the demand for research assistants, associates, and administrators. As expendi-

tures often carry over from the previous year's budget, or even for as long as two or three years, it is likely that the greatest pinch will not occur until 1955. However, it must be noted that final decisions about bigger departmental budgets are not yet made.

There have been many crises in science and in psychology in relation to the government since the war; it appears the next few months will provide more. We must be particularly vigilant at this time to know the facts, to try to understand what is happening, and what effect it will have in the classroom and the laboratory.

Now to some current news.

General Science Appropriations. Officials of the National Science Foundation profess to be optimistic or at least unperturbed by the general outlook for science in general and for the Foundation itself. They believe the Truman research budget of $2.4 billion will be cut approximately $350 million, or approximately 15 per cent. This would not indicate justification for the widely expressed fear that "scientific research is being considered a luxury, the first place to swing the economy axe."

Most of this cut will come in defense projects, they believe, and here psychology will be concerned, for in defense the largest cuts will be in the Air Force, where large numbers of psychologists are employed. The nature of Air Force cuts will be bitterly contested this summer. Some think it will be October before the last of the military appropriations are made.

Total government allocations for research in recent years have run as follows: 1950, $1.2 billion; 1951, $1.8 billion; 1952, $2.2 billion. Actual expenditures in these years ran well behind the allocations. Nonprofit agencies received $341 million in research contracts for the fiscal year 1952, 50 per cent of it from Defense and 35 per cent from the Atomic Energy Commission.

National Science Foundation. The National Science Foundation itself is probably due to get an appropriation of around $8 million, not quite double what it received last year. After the crisis two years ago, when its request for $14 million was initially cut by 97 per cent, the NSF last year had a budget of $4.75 million. This year the Truman budget asked for $15 million, the Bureau of the Budget trimmed it to $12.25 million, the House Appropriations Committee approved $5.74 million and the Senate $10 million. The difference between the two latter figures will probably be split in this case. The House has also approved a bill to remove the provision in the original NSF Act which would provide that the NSF budget should never exceed $15 million a year. This change, if approved by the Senate, will permit NSF to administer and take into its budget research contracts from other agencies which Congress or the agencies want to turn over. The fact that the House approved this change is considered a marked improvement in understanding over the situation of a few years ago.

Foundation officials are still concerned about the possibility that research funds will be cut in other departments, on the stated grounds that "the NSF was set up for the very purpose of supervising such research." This would be excellent except that the funds appropriated are still far short of those necessary to do the job the proponents of NSF had in mind in originating the agency. Thus, there might be an inadvertent or advertent "squeeze play" in which projects are abolished without an expressed intention to abolish them. It may be that some projects will be "lost" by shutting a door on one side of the street before a door is open on the NSF side.

Armed Services and Veterans Administration. Budgets and plans are very much up in the air.

The proposed Air Force cut of $5 billion may sharply curtail psychological research by this service, but at the moment this issue of the cut is very much in doubt. There are no present plans for carrying through the economy program in specific relation to research. The Air Force supplied over half of the $9,313,189 appropriated by the Armed Services to contract research in psychology this year, and a drastic cut in the service as a whole would mean a cutback for psychology.

The Veterans Administration is a different situation, and although heavy cuts are forecast for the VA, it is our understanding that cuts will be primarily in areas not involving psychology and psychologists.

National Institute of Mental Health. As this is written, the House has approved with minor changes the drastically cut budget of the National Institute of Mental Health. The Eisenhower budget provided $9,817,000 for the Institute of Mental Health as compared with the original request for $15,500,000. Research projects were cut a million dollars out of a total of $2,665,000. Training

grants were cut more than one million out of a total of $4 million.

The Institute had asked $2,500,000 for construction of research facilities, and this was entirely cut out of the budget. The $3 million budget for preventive clinics in the states was cut three-fourths of a million. Research conducted directly by the N.I.M.H. was cut only slightly, and the $187,000 for research fellowships was not cut at all.

"Document 32." Anyone interested in studying an excellent sample of Congressional appraisal of contract research should secure Senate Document No. 32, from the Government Printing Office.

This report on "Manpower Utilization" by the Committee on Post Office and the Civil Service, headed by Senator Frank Carlson (R., Kans.), says, "The subcommittee found examples of duplicate and needless expenditures resulting from a lack of coordination on the part of various departments in the field of social-science research. We uncovered contracts running into hundreds of thousands of dollars which had been let indiscriminately."

It notes that "very few Government departments have either the equipment or the technical personnel available to conduct research projects . . . one of the reasons preventing expansion is lack of technical personnel. . . ." But it called "for a more judicious review and reevaluation of many contracts now in existence," and cited several samples of what it considered poor contract awards or poor management.

Some social studies done by the Air Force duplicated information already available in the State Department, the subcommittee found. "Officials there were amazed when we showed them some of the contracts. . . . We found that the Air Force headquarters itself was unaware of some of these studies . . . these contracts had been let by contracting officers in the field with no notification having been sent to headquarters . . . after this matter had been called to their attention many of these overlapping contracts were cancelled."

Private contractors can offer better salaries than government offices, the report said, and "are frequently able to recruit federal personnel with federal funds." It also noted that "scientific methods of research and scientific thought processes are not always compatible with the strict government work regulations."

The committee recommended several changes in contract procedure, starting with better methods of checking to see that work presently performed under contract cannot be done directly by the government. It also suggested "Proselyting by contractors of federal, scientific and technical employees requires *that there be established controls in federal contracts which will assure that salaries and benefits can be reasonably comparable to federal salary schedules.*" (Italics ours.)

A.C.E. Report. A Committee on Institutional Research Policy of the American Council on Education has presented an interim report quite critical of present government-university contract policies.

It states: "We are moving into a situation where colleges and universities and the government will quite unwittingly have created a condition in which institutions of higher learning are substantially dependent upon federal support. The Committee believes that federal support . . . should not become essential to the survival of higher education . . . insistence by educational institutions on reserving to themselves the right of receiving full reimbursement for total costs of conducting sponsored research should not be construed as a device for securing federal aid to education."

The Committee emphasizes, however, that "participation in sponsored research projects at less than full cost may lead to financial difficulties that will endanger the institution. . . . The Committee recommends that all government agencies which sponsor research in educational institutions contract on the basis of full costs, and, in the determination of indirect or overhead expenses, uniformly adopt the formula used at present by the military services. . . ."

The Committee also notes "a serious imbalance between the government funds going to development and emergency research and those going to basic research. The Committee is fearful that, since the war, we have not maintained the proper emphasis on basic research and that this may be reflecting itself both in the quality of scholars we are turning out and in the accumulation of fundamental knowledge; hence we may be jeopardizing the progress and security of the nation."

Comptroller's Ruling on Services. A recent ruling of the Comptroller General of the U. S. (in the case of a contractor who was providing personnel services for a military agency) raises grave questions about the future of certain types of contract

research. The Comptroller General ruled that because the services being obtained by the contract were of a character usually performed by classified employees the contract was unauthorized "as being in contravention of the above-mentioned general rule that purely personal services for the Government are required to be performed by Federal personnel under Government supervision."

It is possible that certain kinds of contract research could be interpreted in much the same way. The ruling indicated that contracting for personal services might be viewed as an attempt to avoid the personnel ceilings set by Congress.

Draft Prospects. Draft calls currently are running about 50 per cent of prior selective service estimates and will likely continue at this level as a result of economy considerations. This will delay somewhat the time when the manpower pool becomes seriously depleted. However, tightened regulations concerning deferments are expected. An executive order is under consideration which proposes changes which would reduce the deferment eligibles among graduate students. Current regulations set standards for deferment of graduate students at a score of 75 on the Selective Service College Qualification Tests or standing in the upper half of the class. The proposed changes being considered by the Defense Manpower Administration Committee would raise this qualifying score to 80 and the required class standing to the upper quarter.

Also under consideration is an executive order eliminating dependency as grounds for deferment in the case of a person who had previously enjoyed deferment as a student.

In general, these changes would not have a very marked effect on current graduate students as the number of inductees is decreased. On the other hand, the regulations, if approved, will prepare the way for more stringent appraisal of student deferments once the manpower pool reaches serious depletion.

Commissions for Psychologists. Cutbacks in the military establishment mean that fewer commissions will be available for psychologists. So far as could be learned, the Air Force will not be commissioning psychologists for some time. The Army will have a limited number of openings for clinical psychologists during the next few months. The Army's student program will be curtailed because of attainment of its original objective. The Navy has, at the moment, a few openings for clinical and experimental psychologists in both Regular and Reserve status and may continue to have a few such opportunities.

Psychologists finishing their doctorates will face the prospect of being drafted, and many of them will be assigned to psychological work in an enlisted status.

CONCLUSIONS

1. As yet there is no further evidence that the prevailing tone towards science in this administration will be the extreme one shown by the Secretary of Commerce in the Astin case.

2. As yet there are no widespread budget cuts of research in excess of other budget cuts to substantiate the fear that government-sponsored science is in for a recession from the boom of recent years.

3. There seems to be a good chance that psychology, or psychologists, will suffer from drastic cuts in the Air Force budget, if such cuts materialize.

4. Both Congress and the Executive are showing increasing concern for the manner in which government funds are spent through private contractors. It seems very likely that some curtailment of contract research is in the offing.

5. Some scientists in and out of government believe cutbacks could have a salutary effect on the sciences concerned.

6. This should be a period in which scientists watch the news and prepare to give advice, counsel, and protests where deemed necessary.

GEORGE W. ALBEE
MICHAEL AMRINE



National Headquarters of the American Psychological Association



RECEPTION HALL



STAFF LOUNGE



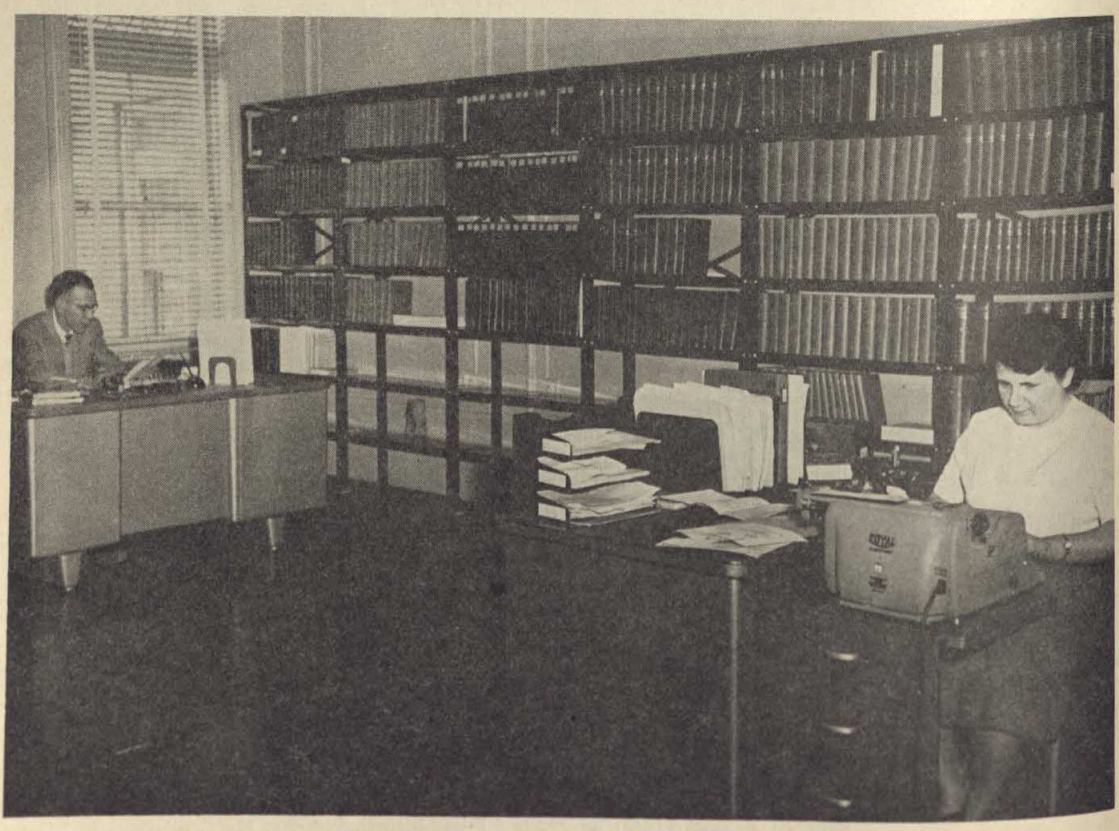
ROBERT M. YERKES AND FILLMORE H. SANFORD IN EXECUTIVE SECRETARY'S OFFICE



SECOND FLOOR HALL AS SEEN FROM BOARD ROOM



ADMINISTRATIVE OFFICE



BEGINNINGS OF THE JOURNAL LIBRARY

Psychological Notes and News

Cecily S. Glasgow, Grafton State School, Grafton, North Dakota, died as the result of an automobile accident on September 15, 1952.

A. A. Cleveland, Pullman, Washington, died March 7, 1953.

A. H. Knab-Barnwell, died April 4, 1953 in Windsor, England.

Hadley Cantril has been appointed chairman of the department of psychology at Princeton University. He succeeds Carroll C. Pratt.

Thomas A. Ryan has been appointed chairman of the department of psychology at Cornell University.

Ralph W. Tyler, dean of the Division of the Social Sciences at the University of Chicago, has been appointed director of the Center for Advanced Study in the Behavioral Sciences, sponsored by the Ford Foundation.

Donald T. Campbell has accepted an appointment as associate professor in the department of psychology at Northwestern University, to begin in October, 1953. He is at present in the department of psychology at the University of Chicago.

Frederick A. Whitehouse has left the Institute for the Crippled and Disabled, where he was director of vocational rehabilitation, and is now rehabilitation consultant for the American Heart Association. He continues as a consultant to the Institute.

Jesse H. Craft, formerly associated with the neuropsychiatric department of the Hertzler Clinic, Halstead, Kansas, and Elizabeth L. Stafford have announced the opening of the Psychological Clinic, 839 South Oliver, Wichita 17, Kansas. Practice will be limited to testing and counseling services.

J. E. Wallace Wallin will direct a graduate workshop on handicapped children during the summer session, beginning June 15, at Mercer University, Macon, Georgia.

Mills College has announced that Mary C. Burch, dean of the faculty and chairman of the department of psychology, will retire from the College in June. She will be succeeded as dean of the faculty by Mary Woods Bennett, professor of psychology.

Anita F. Lyons, formerly director of special education and testing at the Leonia School, New Jersey, has been appointed assistant professor of psychology and director of the reading service of Adelphi College, New York. She will continue as chief psychologist at Grace Church School, New York.

John R. Hawkinson has been appointed supervisor of the Bureau for Psychological Services of the State of Minnesota Division of Public Institutions, St. Paul.

Marion Bunch and Cecil Gibb will be visiting lecturers in the psychology department at the University of Wisconsin during the summer session, June 26 to August 21.

Simon H. Tulchin, New York City, has been chosen as president-elect of the American Orthopsychiatric Association for the coming year.

Norfolk State Hospital, Norfolk, Nebraska, has announced the appointment of Earl Taulbee as assistant chief psychologist and Gertrude Williams as psychological intern.

William, Lynde & Williams, psychological consultants, have announced the opening of an office in Painesville, Ohio. Members of the organization are William E. Brown, W. H. Eugene Geiger, Robert W. Henderson, and Lynde C. Steckle.

Nordli, Ogan, Wilson Associates, psychological consultants to management, have announced the opening of an office at 17 East 42nd Street, New York City. Members of the organization are William Nordli, Ralph W. Ogan, and J. Watson Wilson.

Mitchell Dreese, dean of the College of General Studies of the George Washington University, will be in Europe from May 15 to June 27, conducting for the Air Force a series of conferences for chaplains, personnel officers, and commanders on problems pertaining to human relations and techniques

of counseling. It is hoped that as a result of this survey a series of training institutes for chaplains may be established in Europe and North Africa in the summer of 1954.

VA Department of Medicine and Surgery Clinical Psychology Program Announcements

Albert A. Branca, a graduate of the VA Training Program from the University of North Carolina, has been appointed to the staff at VA Hospital, Fayetteville, North Carolina.

William Dunn, a graduate of the VA Training Program from Duke University, has been appointed to the staff at VA Hospital, Gulfport, Mississippi.

Shabse H. Kurland, a graduate of the VA Training Program from Teachers College, Columbia University, has been appointed to the staff at VA Hospital, Wilmington, Delaware.

Richard G. Murney, a graduate of the VA Training Program from Catholic University, has been appointed to the staff at VA Center, Kecoughtan, Virginia.

Donald P. Schmidt, a graduate of the VA Training Program from University of Washington, at Seattle has been appointed to the staff at VA Hospital, Coatesville, Pennsylvania.

Arthur Teicher, a graduate of the VA Training Program from New York University, has been appointed to the staff at VA Regional Office, Newark, New Jersey.

Bernard H. Gold has been appointed to the staff at VA Regional Office, Chicago, Illinois.

John H. McCormack has transferred from VA Regional Office, Newark, New Jersey, to VA Hospital, Kansas City, Missouri.

Theodore McKnelly has transferred from VA Hospital, Omaha, Nebraska, to VA Hospital, Knoxville, Iowa.

Harold Musiker has transferred from VA Hospital, Bedford, Massachusetts, to VA Regional Office, Providence, Rhode Island.

Leo Shatin has transferred from VA Hospital, Brooklyn, New York, to VA Hospital, Albany, New York.

Mordecai Whiteman has resigned from the staff at VAH Montrose, N. Y. to return to the Delaware State Program.

Mac Sterling was erroneously listed in the Waco VAH staff roster as Mac Ferguson.

Trenton Wann is a member of the staff at VA Hospital, Houston, Texas.

The State of Tennessee has recently passed a law to license psychologists and psychological examiners. The law includes the explicit inclusion of psychotherapy in the definition of the practice of psychology.

The thirteenth meeting of the Joint Panel on Training and Training Devices, Research and Development Board, a symposium on "Psychology of Learning Basic to Military Training Problems" was held on May 7 and 8. Speakers were Walter S. Hunter, E. R. Hilgard, Gregory A. Kimble, William K. Estes, Frederick Mosteller, Leonard C. Mead, Don Lewis, Robert M. Gagné, John L. Kennedy, Launor F. Carter, Frank A. Geldard, Neal E. Miller, Richard L. Solomon, I. E. Farber, L. Starling Reid, Kenneth W. Spence, James J. Gibson, D. O. Hebb, Harry F. Harlow, and Donald W. Taylor.

The Scientific Manpower Commission, recently organized by eight major scientific societies, has opened an office at 1530 P Street N.W., Washington, D. C. Sixteen scientists, nominated by the participating societies, will make up the commission, which will study the nation's needs for scientists in education, industry, government service, and the armed forces, and will direct its efforts toward bringing the scientific manpower supply and demand into adjustment under changing international economic conditions. Officers are Howard A. Meyerhoff, president; E. G. Begle, vice-president; and Milton O. Lee, secretary-treasurer. Other members are Henry A. Barton, Detlev W. Bronk, Stewart S. Cairns, Leonard Carmichael, M. T. Carpenter, Frank P. Cullinan, George R. Harrison, John S. Nicholas, Joseph H. Roe, B. R. Stanerson, and Dael Wolfle.

A Chart of Communication for use with aphasics has been developed by Hamilton Cameron. The Chart has been used in cases where the teaching of a complicated hand-sign language is impractical or impossible. Copies will be supplied gratis by Dr. Cameron, Suite 3LL, 601 West 110th Street, New York 25, New York.

Friends and former students of the late **Rudolf Pintner,** 1884–1942, have published a Memorial Volume which includes the annotations of all Dr. Pintner's contributions for over a period of 30 years. The volume is edited by Seth Arsenian of

Springfield College and is published by Gallaudet College as a tribute to Dr. Pintner's work in connection with the psychology and education of the deaf and the hard-of-hearing. Complimentary copies are being sent to various individuals and to a number of university and college libraries in the United States. Individual psychologists or organizations interested in obtaining a copy of the Memorial Volume, free of charge, may write to Dr. Irving S. Fusfeld, Dean, Gallaudet College, Kendall Green, Washington 2, D. C.

Literature and Psychology, the newsletter of the Conference on Literature and Psychology of the Modern Language Association, is a publication that may be of interest to psychologists. It has been published for two years with five issues each year. Inquiries concerning subscriptions may be sent to Leonard F. Manheim, 38 Fern Street, Floral Park, N. Y.

A small volume in memory of **Walter V. Bingham** has just been issued by the National Audubon Society. It features an article he wrote for them in 1937 entitled *Homo sapiens audubonienses* which was a pioneer analysis of the traits of a naturalist. The book also contains an essay by his wife, Millicent Todd Bingham, entitled "Beyond Psychology," which presents Walter Bingham from a point of view new to some members of his profession, namely, his hobbies, his interests, his life in the wilderness. The book can be obtained from the National Audubon Society, 1130 Fifth Avenue, New York City, for one dollar.

A one-day workshop in industrial psychology, **"The Psychologists' Role in Business and Industry,"** sponsored by Division 14, will be conducted by Edwin R. Henry, Research Advisor, Standard Oil Company, and Stephen Habbe, Senior Research Analyst, National Industrial Conference Board, during the 1953 APA annual convention. The sessions will be held at a hotel apart from the convention proper, on Tuesday, September 8. The schedule, to be announced in detail later, will run from 9:30 A.M. to 9:30 P.M. Luncheon and dinner will be provided in private dining rooms. The material will be oriented around the problems of staff psychologists in business organizations, industrial consulting psychologists, and teachers of industrial psychology. Enrollment will be limited to 30, but for work sessions there will be two groups of 15. The charge will be $25, payable when application is made. Applications may be sent to members of the committee: Charles D. Flory, Raymond A. Katzell, and Wesley H. Osterberg.

The second annual **Western Training Laboratory in Group Development** will be held August 16–28 at Idyllwild, California, under the auspices of the School of Education and University Extension on the Los Angeles campus of the University of California. Daily general sessions, dealing with theory and practical problems, provide factual information on research and theoretical aspects of group behavior, as well as opportunity to experiment with varied techniques of small and large group procedures, will characterize the California Laboratory. Any person who has a responsibility for working with groups, in a consultant, training, research, or leadership capacity may attend the Laboratory. Enrollment limit is 96. Application forms are available on request to the Department of Conferences, University of California Extension, Los Angeles 24.

Work Conferences in Reading, sponsored by the Committee on Diagnostic Reading Tests, Inc., will be held in Washington, D. C., July 27–August 7; Harvard University, July 13–24; Colorado A & M College, Fort Collins, Colorado, August 10–21; University of Southern Califorina, Los Angeles, June 15–26. The purpose of the conferences is to further the improvement of reading instruction whether taught in schools, colleges, extension services for adults, or training in industry or the armed forces. Observation of clinical techniques used will be a feature of the conferences wherever such arrangements can be made. Pre-registration for each conference is necessary. Tuition charge will be $30, half of which is payable at the time application is made. For further information write to Committee on Diagnostic Reading Tests, Inc., Kingscote Apt. 3G, 419 West 119th St., New York 27, N. Y.

The Sixth Annual Meeting of the **World Federation for Mental Health** will be held at the University of Vienna from August 16 to August 22, 1953. The theme of the meeting will be "Social Provision for Mental Health." For application forms and for further information, write to National Association for Mental Health, Inc., 1790 Broadway, New York 19, N. Y.

The **Second World Congress of Sociology** will be organized at the University of Liège from August 24 to September 1, 1953, by the International Sociological Association under the auspices of UNESCO and the Belgian Government.

The **Committee for the Scientific Study of Religion** will hold its fall meeting on November 21 at Harvard University. Scholars who wish to present empirical research in the field (12-minute papers) should send 300-word abstracts to Professor Prentiss Pemberton, Andover-Newton Theological School, Newton Centre 59, Massachusetts, by October 1.

The University of Michigan **Sixth Annual Conference on Aging** will be held in Ann Arbor, Michigan, July 8–10, 1953. The theme of the conference will be "Careers for Maturing Workers." Discussion sections will consider economic, social, and personal values of continuing employment; the maturing worker from the standpoint of health; age, skill, and motivation as factors in adjustment of the older worker; counseling, guidance, placement, and training of the maturing worker; continuing employment in business and industry; practical considerations in specific fields of work including arts, crafts, manufacturing, and service occupations; development of new opportunities in all fields of work; needed action by business, industry, unions, communities, and government agencies. Conference membership is open to anyone. For further information about the program write to Wilma Donahue, Chairman, Division of Gerontology, University of Michigan, 1510 Rackham Building, Ann Arbor, Michigan.

The Seventh Annual Conference on Current Trends in Psychology was held at the University of Pittsburgh on February 20 and 21, 1953. Information Theory was the theme of the Conference, and the following papers were presented: R. A. Patton, "Introduction"; Brockway McMillan, "Mathematical Aspects of Information Theory"; David A. Grant, "Information Theory and the Discrimination of Sequences in Stimulus Events"; Paul Fitts, "Problems in Stimulus and Response Coding"; Frederick C. Frick, "Some Perceptual Problems from the Point of View of Information Theory"; Warren McCulloch, "Information Coding in Neural Nets"; George A. Miller, "Information Theory and the Study of Speech"; and Henry W. Brosin, "Communications in Clinical Psychiatry." These papers will appear in a volume to be published by the University of Pittsburgh Press.

The Society for the Psychological Study of Social Issues has announced the appointment of a committee of judges for the **Industrial Relations Research Award** for 1953. Members of the Committee, representing research interests in labor, management, and the academic world, are Mason Haire, chairman, Neil Chamberlain, David Dolnick, and William Smith. The judges will determine the winner of a $500 U. S. Government Bond. The award will be presented at the September meetings of the APA in Cleveland, Ohio, to the person whose research is judged most valuable as a scientific contribution to the understanding of labor-management relations.

In January, 1951, the Institute for Social Research in Oslo offered a prize of N.kr. 10,000 for the best paper on the relevance of research to the problems of peace. The jury concluded, however, that no single contribution could be said to have covered in a fully adequate way the many difficult problems raised by the Institute in its announcement. It was therefore decided that the full prize should be shared between the authors of two papers that together would seem to provide a point of departure for the development of a comprehensive series of publications on the problems of research in its relevance to peaceful adjustment of international relations. The prize was awarded to William F. Cottrell, professor of sociology, Miami University, Oxford, Ohio, for his paper entitled "Polybius," and to Quincy Wright, professor of international law, University of Chicago, for his paper entitled "Men Cry Peace." It has been recommended that the Institute publish the two papers as the first in a series of publications on research for peace.

The **Rockefeller Foundation** has granted $75,000 to Princeton University for the continuance of a study of human behavior in which more than 125 research and university centers in eighteen countries are cooperating. For several years experiments have been conducted in these centers, with demonstration equipment designed for the most part by members of the department of psychology at Princeton in collaboration with Adelbert Ames and his associates at the Institute for Associated Re-

search, Hanover, New Hampshire. Members of the department of psychology of Princeton who are associated with the work are Hadley Cantril, William H. Ittelson, and Franklin Pierce Kilpatrick, and two graduate students, Charles Slack and Warren Wittreich.

The Public Health Service has announced that, beginning July 1, 1953, applications for research fellowships in the field of mental health, as well as in other fields, will be reviewed twice each year, rather than three times a year as at present. Applications for Post-Doctoral and Special Research Fellowships should be submitted prior to October 15 or February 15. Awards will be announced about three months later. The closing dates for submitting research grant applications will continue to be July 1, November 1, and March 1. Awards will be announced from four to five months after the closing dates. For further information and application forms, write to Dr. John C. Eberhart, Chief, Research Grants & Fellowships Branch, National Institute of Mental Health, U. S. Public Health Service, Bethesda 14, Maryland.

Walter V. Bingham Lectureship. The APA Board of Directors announces the acceptance of a gift of $600 to establish for 1953–54 the Walter V. Bingham Lectureship. This gift is made by Mrs. Millicent Bingham in honor of and to carry out the wishes of her late husband. Dr. Bingham's memorandum on "The Discovery of Talent Project" stated that the project has two purposes:

1. To rivet attention of the psychological profession and of others, from time to time, on the great value of accurate identification of exceptionally promising young people.
2. To do honor to those psychologists and to those institutions contributing richly to the advancement of this branch of personnel psychology.

A committee is being appointed to carry out the stipulations and spirit of the grant. It is expected that the lecturer for 1953–54, and the institution to be honored (where the lecture will be delivered), will be announced at the September, 1953 meeting of the APA.

The interest of Dr. and Mrs. Bingham in this project may be better indicated by quoting from a letter from Mrs. Bingham. It is her hope to provide for continuation of the lectureship.

Leadership in the conduct of world affairs has been thrust upon the United States. The quality of that leadership must be the best that our country can provide. To this end the discovery of young people of promise early enough to give them the opportunity to develop their talents to the limit of their ability has been the concern of educators for some time. Particularly in the field of discovery of scientific aptitude much is being done. But Walter Bingham felt that the search should be broadened. He was appalled by the waste of talent in this country because of failure to make the most of the abilities of gifted young people. Many of them never utilize their powers in full, either through lack of opportunity to obtain the necessary training, often because of financial handicap, or through unawareness on their part, or on that of their parents or teachers, of the desirability of giving them ample scope.

Hitherto, emphasis has been placed on the young people and on their early identification. This is not only desirable; it is necessary if leadership commensurate with our country's resources and our responsibilities is to be provided. But Dr. Bingham suggested a new and original approach to the problem by placing emphasis on the searcher rather than on the object of his search. In other words, identification of the talented might be furthered, he thought, by providing an added incentive to those engaged in research, by rewarding in this instance not the young people but those who are trying to find and assess them. His professional interest has focused more and more on devising tools for such a purpose. With this in mind, and as a spur to the efforts of those working in the field of discovery of talent, he left with his will a memorandum detailing his wishes. . . .

Clinical psychologists needed by the Veterans Administration is forecast for the period 1953–1960 in a booklet entitled *Planning in Psychiatry, Neurology and Clinical Psychology*. This publication, released by the Veterans Administration on March 1, 1953, has many statements of interest to psychologists, some of which are reproduced here.

By 1960, if present laws remain unchanged, about 100,000 psychotic veterans will be receiving, or be eligible to apply for, care in Veterans Administration hospitals. Unless state hospitals assume responsibility for a substantial number of non-service-connected psychotic veterans, the VA will have to maintain waiting lists on the order of 40,000 to 50,000 names.

A half million service-connected veterans will, by 1960, be eligible for outpatient care at VA mental hygiene clinics, or at private outpatient facilities as VA beneficiaries.

To staff existing hospitals plus those authorized for construction, and to meet the needs of regional offices, the following numbers of clinical psychologists must be available by 1960:

	Needed by 1960	*On Duty Now*	*To be Added*
Hospitals	825	276	549
Regional Offices	360	124	236
Total	1,185	400	785

These figures indicate that about three times as many clinical psychologists as are now employed will be needed by 1960, which amounts to an expansion of over a hundred a year in addition to replacements.

It is not contemplated that there will be any substantial change in the clinical psychology training program. In terms of recruitment for our career service, this has been the most successful training program to date. We plan to continue this without abatement.

The activities of clinical psychologists have also been invaluable in the preparation of many of the scientific papers and exhibits which have come out of the Department of Medicine and Surgery, based on studies of psychiatric problems.

Clinical psychology has been, and is expected to continue as, an essential element in much of the Veterans Administration's research in psychiatry and related sciences. And it has been vital in the development of our mental hygiene clinics.

Beyond the normal expansion necessary to keep pace with these developing programs, and readjustments needed to maintain balance in the staffing patterns of our stations, no significant changes are in contemplation with respect to the clinical psychology program. The continuation of the training program at its present level should produce (by 1960) a staff of about 1,100 clinical psychologists. By that date, there will be need for 1,200 to 1,600 psychologists so that additional sources of recruitment must be explored, unless the training program can be appreciably expanded.

Expansion of vocational counseling services in hospitals is already part of the general planning of the Department of Medicine and Surgery. This will help in moving patients out into the community. We plan to work effectively and closely with the counseling personnel of this program.

Fulbright Scholars in Psychology. During the academic year 1951–52, six psychologists came to the United States with U. S. government grants under the Fulbright Act. They were U. Hla Bu, University of Rangoon, Burma; Alice W. Heim, Cambridge University, England; Antoine Oldendorff, University of Nijmegen, Netherlands; William M. O'Neil, University of Sidney, Australia; Asenath Petrie, St. George's Hospital, London; and Walter Toman, University of Vienna, Austria. When their stay was over, they were asked by the Committee on International Exchange of Persons of the Conference Board of Associated Research Councils to write reports on their visit. Five of the psychologists submitted such reports, from which the following material has been abstracted.

Of these five psychologists, four came to the U. S. as research scholars and one as a lecturer. Two were primarily interested in the psychology of personality, one in social psychology, one in mental testing, and one in clinical psychology. Their host institutions were Harvard, Stanford, Michigan, and Pennsylvania. They were in the U. S. for periods ranging from three months to a year. In addition to the time spent at the sponsoring institution, the four research scholars said that they had traveled to other universities, research centers, and psychological clinics. Two of them reported that they had attended professional meetings in the U. S., two did not attend any meetings, and one did not answer this question. As a result of their work here, all but one reported that they had either prepared papers or had data from which to prepare papers for scientific publication.

Fulbright awards for 1952–53 have been granted to five psychologists: Muhammad Aslam, Government College, Lahore, Punjab, Pakistan; Chulam Jilani, University of Dacca, Pakistan; John Edward L. King, Haythrop College and Manresa College, England; Hari Pada Maiti, Patna University, India; and Tonko Ten Have, University of Amsterdam, Netherlands.

The research projects listed in the April *American Psychologist* as sponsored by the Special Devices Center, Long Island, New York, are being conducted by the Instructional Film Research Program of the Pennsylvania State College.

SCHEDULE FOR THE 1953 APA CONVENTION

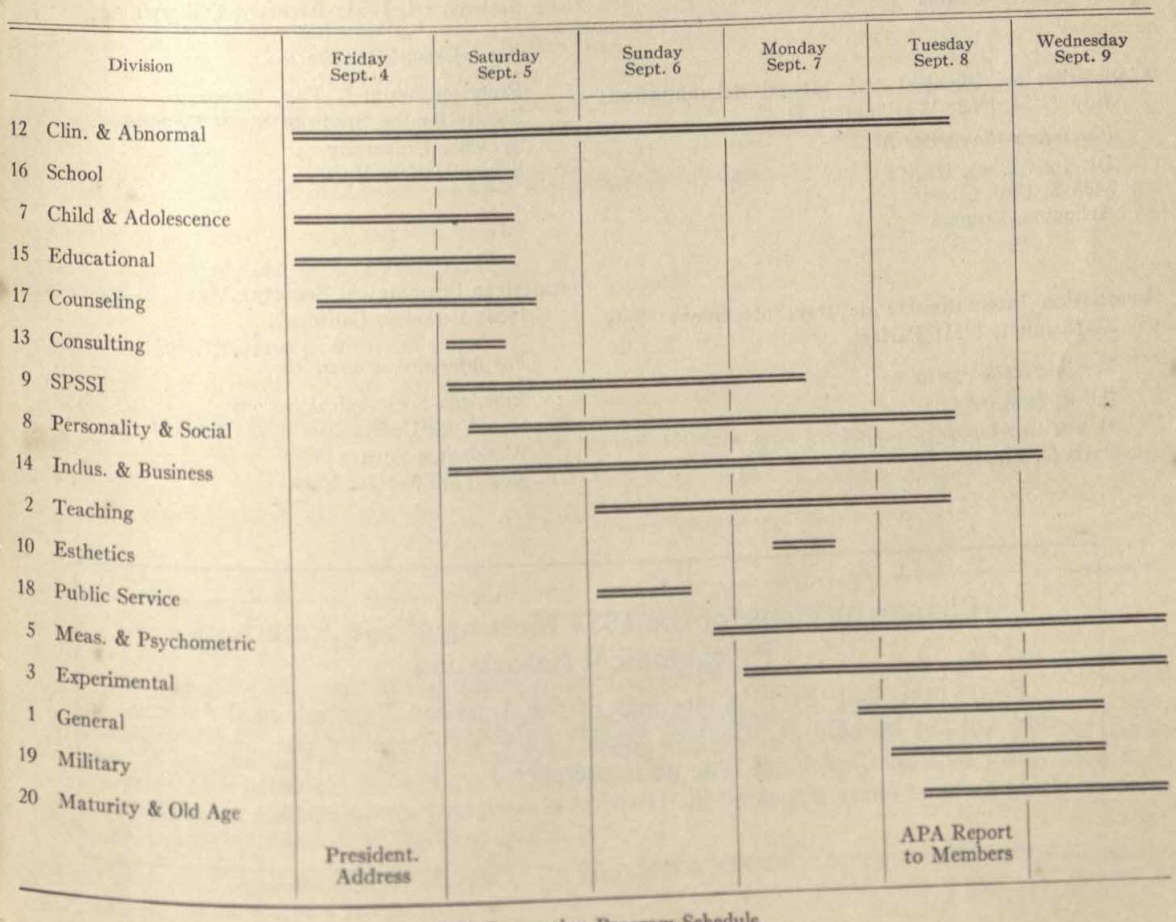
AS the length and size of the APA convention have increased there have been numerous suggestions for some type of "blocked time schedule" for the convention. Likewise, as our monetary and time budgets are stretched more and more, psychologists find it necessary to plan their convention attendance as early as possible. Thus, the publication of a tentative time schedule in the May *American Psychologist* would be helpful to many for planning purposes. (Unfortunately, the problems associated with such new programming and with the change in convention location did not allow this year's announcement to appear until June.)

After consulting with a number of interested psychologists your Program Committee has decided to attempt a blocked time system for the 1953 meetings. The figure below shows the periods during which the program of the various divisions will be scheduled. Every attempt will be made to follow this plan as closely as possible. Since, at the time of writing, the program is not in final form, it may be necessary to modify slightly this schedule.

Individual members will undoubtedly wish that certain programs had been scheduled at different times. It is the Program Committee's hope that the adopted schedule will accommodate the vast majority of convention goers. Members of Division 16 will note that their program appears as early as possible, as was requested by their program officials. Division 20's program might logically appear earlier in the meetings, but because of a conflicting meeting of the Gerontological Society it has been necessary to place it at the end of the convention. At the time of the meetings, a systematic attempt will be made to obtain the opinions of a large number of convention goers regarding the desirability of this type of schedule.

APA Convention Program Committee

Launor F. Carter, *Chairman*
Charles N. Cofer
George G. Thompson
O. Hobart Mowrer, ex officio
Erwin K. Taylor



1953 Convention Program Schedule

Convention Calendar

American Psychological Association: September 4–9, 1953; Cleveland, Ohio

For information write to:

Dr. Fillmore H. Sanford
1333 Sixteenth Street N. W.
Washington 6, D. C.

American Neurological Association: June 15–17, 1953; Atlantic City, New Jersey

For information write to:

Dr. H. Houston Merritt
710 West 168th Street
New York 32, New York

Western Psychological Association: June 18–20, 1953; Seattle, Washington

For information write to:

Dr. Richard Kilby
Department of Psychology
San Jose State College
San Jose, California

Association for Physical and Mental Rehabilitation: July 20–24, 1953; Washington, D. C.

For information write to:

Dr. John Eisele Davis
3423 S. Utah Street
Arlington, Virginia

Association Internationale de Psychotechnique: July 27–August 1, 1953; Paris

For information write to:

Pr. R. Bonnardel
41, rue Gay-Lussac
Paris 5°, France

International Sociological Association: July 27–August 4, 1953; Liège, Belgium

For information write to:

Mr. Erik Rinde
Grev Wedels pl. 4
Oslo, Norway

Gerontological Society: August 25–27, 1953; San Francisco, California

For information write to:

Dr. Harold E. Jones
Institute for Child Welfare
University of California
Berkeley 4, California

Society for the Study of Social Problems: August 29–September 1, 1953; Berkeley, California

For information write to:

Professor Byron L. Fox, Secretary
Society for the Study of Social Problems
Syracuse University
Syracuse, New York

American Sociological Society: August 30-September 1, 1953; Berkeley, California

For information write to:

American Sociological Society
New York University
Washington Square
New York 3, New York

Change in Plans for the 1953 Meeting of the American Psychological Association

Please note that the 1953 meetings of the American Psychological Association will not be held at Michigan State College as originally planned. They will be held in Cleveland, Ohio on September 4–9, 1953. Details concerning local arrangements appeared in the May *American Psychologist.*

THE AMERICAN PSYCHOLOGIST

The Professional Journal of the American Psychological Association, Inc.

Volume 8 July, 1953 Number 7

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PSYCHOLOGICAL REVIEW

Editor: CARROLL C. PRATT, *Princeton University.* Contains original contributions of a theoretical nature; bimonthly.

Subscription: $6.50 (Foreign $7.00). Single copies, $1.25.

PROGRAM OF THE SIXTY-FIRST ANNUAL MEETING OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

SEPTEMBER 4–9, 1953, CLEVELAND, OHIO

TUESDAY, SEPTEMBER 1

9:00 Meeting of Chief Psychologists in State Mental Health Programs with Psychologists of the National Institute of Mental Health. Rooms 304, 305, and 306, Cleveland College

9:00–5:00 Board of Directors, APA. Room 24, Cleveland

7:30–11:00 Board of Directors, APA. Room 24, Cleveland

WEDNESDAY, SEPTEMBER 2

9:00 Meeting of Chief Psychologists in State Mental Health Programs with Psychologists of the National Institute of Mental Health. Rooms 304, 305, and 306, Cleveland College

9:00–5:00 Board of Directors, APA. Room 24, Cleveland

7:30–11:00 Board of Directors, APA. Room 24, Cleveland

THURSDAY, SEPTEMBER 3

8:40 Council Meeting. Div. 9. Room 26, Cleveland

9:00 Meeting of Chief Psychologists in State Mental Health Programs with Psychologists of the National Institute of Mental Health. Rooms 304, 305, and 306, Cleveland College

9:00–12:00 Symposium: Role of the School Psychologist in Services to the Parents of a Child with a Handicap. Div. 16 and National Society for Crippled Children and Adults. Assembly Room, Hollenden

Maria Isch, Chairman; T. Ernest Newland, Stella Whiteside, Robert Walker, Marie Skodak, Robert Wilson, Elsa Miller, Janice Harris, Robert H. Alexander, Thelma Tyler, Helen Appeldoorn, May C. Austin, Rosalie Waltz, Mary Luntis, Tom Coleman, Paul Holcomb, Harry Bice, Alma Ward, Verna Carlisle, Paul Hairpircht, Kathern McKinnon, Viola Cassidy, George Fortune, Stephanie Ralph, Milton A. Saffir, Harold Phelps, Mary Ella Hand, Sister John Bosco, Cleon Johnson Truitt, and M. Lavinia Warner. (Pre-registration is requested.)

9:00–5:00 Board of Directors, APA. Room 24, Cleveland

12:00–2:00 Luncheon. Div. 16 and National Society for Crippled Children and Adults. Assembly Room, Hollenden

1:00–5:00 VA Round Table on Training. Coral Room, Hollenden

Open meeting for university consultants and faculty, VA staff and trainees

2:00–4:30 Symposium: Role of the School Psychologist in Services to the Parents of a Child with a Handicap. Div. 16 and National Society for Crippled Children and Adults. Assembly Room, Hollenden

Phyllis F. Bartelme, Chairman; Boyd McCandless and Jayne Shover

7:30–11:00 Board of Directors, APA. Room 24, Cleveland

FRIDAY MORNING, SEPTEMBER 4

8:40–9:40 **Attitudes and Values in Adolescence. Div. 7. Pine Room, Statler** (Ralph H. Ojemann, Chairman)

8:40 Adolescent peer acceptance and valuations of role behaviors. Carson McGuire, Monroe Lanmon, and George D. White

8:55 "Real-life" measures of level of academic and vocational aspiration in adolescence: relation to laboratory measures and to adjustment. David P. Ausubel

9:10 Knowledge of mental hygiene and "probability thinking" in high school students. Eugene E. Levitt and Carl A. Clark

9:25 Anxiety thema of German adolescents in parent-child conflict. Gladys L. Anderson and Harold H. Anderson

8:40–9:40 **Learning. Div. 15. Coral Room, Hollenden** (J. M. Stephens, Chairman)

8:40 Resistance to extinction of two schedules of reinforcement in the operant conditioning of a verbal response. Robert W. Schaerer and Edmund V. Mech

8:55 An experimental comparison of two methods of technical instruction. Slater E. Newman and Richard W. Highland

9:10 Variability in a classroom task related to an operational shift in verbal reinforcement. Edmund V. Mech and Donavon Auble

9:25 The audio-mirror effect upon social learning. Howard Oliver Holt and Carson McGuire

8:40–9:40 **Counseling: Technique and Diagnosis. Div. 17. Mather Room, Allerton** (Barry Fagin, Chairman)

8:40 Method of interpretation and maturity as related to what counselees learn from test interpretations and how they feel about them. Royal B. Embree, Jr.

8:55 Test-score information in the counseling process. Clifford P. Froehlich

9:10 The interests of teachers of vocational agriculture as related to vocational satisfaction. Kenneth G. Nelson

9:25 Standardization and validation of a new secondary level aptitude test battery. David Segel and Arthur T. Tait

8:40–10:40 **Symposium: The Role of the Psychologist in Work with the Disabled. Div. 12 and National Council on Psychological Aspects of Physical Disability. Ballroom, Cleveland**
Kenneth Lund, Chairman; Cleon Johnson Truitt, James W. Curtis, Kate Stills Anderson, and Leslie D. Knudson

8:40–11:30 **Discussion Group: Role and Function of the School Psychologist. Div. 16. Empire Room, Cleveland**
Harold Powell, Chairman; Ethel Cornell, Katherine E. D'Evelyn, Maria Isch, Samuel A. Kirk, Beatrice Lantz, and Stella Whiteside

8:40–12:00 **Board of Directors, International Council of Women Psychologists. Room 26, Cleveland**

9:00 **Workshop. Div. 14. Rose Room, Tudor Arms Hotel** (Pre-registration and payment of registration fee required)

9:00–12:00 **Film Showings, I. Clinical Psychology. Committee on Audio-Visual Aids. Assembly B, Cleveland**

9:00 Client-centered therapy, Part I. C. R. Rogers and R. H. Segal

9:35 Client-centered therapy, Part II. C. R. Rogers and R. H. Segal

10:10 That the deaf may speak. C. D. O'Connor

10:50 Good speech for Gary. University of Southern California

11:15 A concept of maternal and neonatal care. Association of American Medical Colleges

9:50–11:50 **Symposium: Social Psychological Aspects of Physical Disability in Children. Div. 7 and 12. Ballroom, Statler**
T. Ernest Newland, Chairman; Tamara Dembo, Vivian T. Harway, Lee Myerson, Nathaniel J. Raskin, and Beatrice A. Wright

9:50–11:50 **Symposium: Research in Client-Centered Psychotherapy: A Progress Report. Div. 12 and 17. Mather Room, Allerton**
Carl R. Rogers, Chairman; Rosalind Dymond, Thomas Gordon, Donald L. Grummon, Esselyn Rudikoff, and Julius Seeman

9:50–11:50 **Symposium: Current Contributions to the Psychology of Learning by Research in the Military Services. Div. 15. Assembly Room, Hollenden**
Paul Torrance, Chairman; George Wischner, Irl Irwin, Evan Pattishall, and Russell N. Cassel

11:00–12:00 **Executive Committee Meeting. Div. 16. Room 28, Cleveland**

11:00–1:00 **Symposium: The Identification Concept and the Theory of Personality and Psychopathology. Div. 12. Ballroom, Cleveland**
Joseph Adelson, Chairman; Daniel R. Miller and R. Nevitt Sanford

FRIDAY AFTERNOON AND EVENING, SEPTEMBER 4

1:30–3:30 **Symposium: The Place of Child Psychology in the Profession of Psychology. Div. 7. Ballroom, Statler**
Roger G. Barker, Chairman; Urie Bronfenbrenner and Dale B. Harris

1:30–3:30 **Symposium: Implications for Educational Psychology of "The Uneducated." Div. 15. Ballroom, Hollenden**
Douglas W. Bray, Chairman; Robert A. Bell, Don C. Charles, N. L. Gage, Julius E. Uhlaner, Eli Ginzberg, and Ambrose Caliver

1:30–3:30 **Discussion Group: A Training Program for the School Psychologist. Div. 16. Empire Room, Cleveland**
Harold Powell, Chairman; Virginia Lee Block, T. Ernest Newland, Wilda Rosebrook, Milton A. Saffir, Marie Skodak, and D. A. Worcester

1:30–3:30 **Symposium: Counseling as a Learning Process. Div. 17. Mather Room, Allerton**
John G. Darley, Chairman; Arthur W. Combs, Franklin J. Shaw, and Edward J. Shoben, Jr.

1:30–3:30 **Meeting of National Council on Psychological Aspects of Physical Disability. Rose Room, Cleveland** (James F. Garrett, Chairman)

1:30–5:30 **Meeting of Outgoing Executive Committee. (Open to members.) Div. 12. Rooms 32 and 34, Cleveland**

2:00–4:00 **Film Showings, II. Genetic and Social Psychology. Committee on Audio-Visual Aids. Assembly B, Cleveland**
2:00 Genetics and behavior. J. Antonitis and J. P. Scott
2:20 Embryology of human behavior. A. Gesell *et al.*
2:50 Symbols of expression. W. Wolff
3:15 Vocalization and speech in chimpanzees. K. J. Hayes and C. Hayes
3:30 Your children's play. British Information Services

2:40–3:40 **Techniques in Personality Assessment. Div. 12. Ballroom, Cleveland** (Joseph Zubin, Chairman)
2:40 The assessment of techniques for estimating the behavioral adjustment of chronic neuropsychiatric patients. J. Arthur Waites
2:55 The appraisal of body-cathexis: body-cathexis and the self. Sidney M. Jourard and Paul F. Secord
3:10 The functional interrelationships of word association, perception, learning, and memory. Beatrice Irene Bryan

3:25 Projective responses of paranoid schizophrenic and normal subjects to photographs of human faces. Carroll E. Izard

3:50–4:50 Psychosurgery. Div. 12. Ballroom, Cleveland (George K. Yacorzynski, Chairman)
3:50 Learning and lobotomy. Zoltan Gross
4:05 Personality changes following lobotomy. Mina D. Morris
4:20 The self after psychosurgery. Mary Frances Robinson, Walter Freeman, and James W. Watts
4:35 Psychometric evaluation of Rorschach records in brain-operated patients. Raymond J. McCall

3:50–5:50 Presidential Address and Business Meeting. Div. 7. Ballroom, Statler
Roger G. Barker. The Natural History of Children's Behavior in Midwest, U. S. A.

3:50–5:50 Business Meeting and Presidential Address. Div. 15. Assembly Room, Hollenden
Wm. Clark Trow. The Value Concept in Educational Psychology

3:50–5:50 Symposium: Communication in the Counseling Situation. Div. 17. Mather Room, Allerton
Winifred Scott, Chairman; William F. Soskin, Clifford P. Froehlich, Nathan Kohn, and Harold G. Seashore

5:00–6:00 Personality Patterns in Illness. Div. 12. Ballroom, Cleveland (Robert I. Watson, Chairman)
5:00 A psychological evaluation of women with cancer of the breast and of the cervix. John I. Wheeler and Bettye McDonald Caldwell
5:15 Psychological factors in essential hypertension as indicated by the Rorschach test. Ralph M. Reitan
5:30 A personality study of schizophrenics with peptic ulcer. Melvyn Myron Katz
5:45 An evaluation of Rorschach patterns in headache patients. Max Cooper

8:00 Address of the President of the American Psychological Association. Ballroom and Ohio Room, Statler
J. McV. Hunt, Chairman
Laurance F. Shaffer. Of Whose Reality I Cannot Doubt

9:00 Reception for Members of the American Psychological Association. Pine Room and Euclid Room, Statler

SATURDAY MORNING, SEPTEMBER 5

8:40–9:40 Stress and Anxiety. Div. 8. Mather Room, Allerton (Frederick Wyatt, Chairman)
8:40 Response to a life stress: perceptual discrimination. Sheldon J. Korchin and Harold Basowitz
8:55 Response to a life stress: the experience of anxiety. Harold Basowitz, Sheldon J. Korchin, and Roy R. Grinker
9:10 Response to a life stress: an evaluation of some biochemical indices. Harold Persky
9:25 Flicker-fusion measurements and anxiety level. Sanford Goldstone

8:40–10:40 Symposium: Contributions of Child Psychology to General Psychological Theory. Div. 1 and 7. Ballroom, Statler
Alfred L. Baldwin, Chairman; Donald K. Adams, Heinz Werner, and Irvin L. Child

8:40–10:40 Symposium: Assessment of Current Trends in Psychodiagnosis. Div. 12. Ballroom, Cleveland
Julian H. Pathman, Chairman; Arthur L. Benton, J. Warren Thiesen, Howard R. White, Alan K. Rosenwald, and Saul C. Holtzman

8:40–10:40 Symposium: Management Development—Challenge and Opportunity for Psychology. Div. 14. Empire Room, Cleveland
Walter R. Mahler, Chairman; W. F. Holmes, Forrest H. Kirkpatrick, Norman R. F. Maier, Wendell F. Wood, and Harold A. Graver

8:40–10:40 **Symposium: Future Progress in Educational and Psychological Measurement. Div. 15. Assembly Room, Hollenden**
Arthur E. Traxler, Chairman; Morris Krugman, Jerome E. Doppelt, Walter N. Durost, Robert L. Ebel, Warren G. Findley, and G. Frederic Kuder

8:40–10:40 **Symposium: Diagnosis in Counseling. Div. 17. Ballroom, Allerton**
Albert C. Van Dusen, Chairman; William A. Gilbert, Frank Fletcher, and Henry P. Weitz

9:00–12:00 **Film Showings, I. Clinical Psychology. Committee on Audio-Visual Aids. Assembly B, Cleveland.** (For titles, see Film Showings on Friday morning.)

9:00–5:00 **First Session, Council of Representatives, APA. Rose Room, Cleveland** (Open to all APA members)

9:50–10:50 **Membership Development Committee. Div. 16. Room 601, Cleveland College** (Rosina M. Brown, Chairman)

9:50–10:50 **Committee on New Practices. Div. 16. Room 602, Cleveland College** (Gertrude P. Driscoll, Chairman)

9:50–10:50 **Committee on Training and Certification. Div. 16. Room 606, Cleveland College** (Samuel A. Kirk, Chairman)

9:50–10:50 **Committee on Interprofessional Relationships. Div. 16. Room 607, Cleveland College** (Eugene T. McDonald, Chairman)

9:50–10:50 **Committee on Relationship to Local Groups. Div. 16. Room 706, Cleveland College** (Doris R. Miller, Chairman)

9:50–10:50 **Committee on the Socially and Emotionally Maladjusted. Div. 16. Room 303, Cleveland College** (Albert L. Billig, Chairman)

9:50–10:50 **Committee on the Physically Handicapped. Div. 16. Room 304, Cleveland College** (Lee Myerson, Chairman)

9:50–10:50 **Committee on the Mentally Retarded. Div. 16. Room 305, Cleveland College** (Harold A. Delp, Chairman)

9:50–10:50 **Committee on Test Utilization. Div. 16. Room 306, Cleveland College** (Robert C. Scarf, Chairman)

9:50–10:50 **Committee on Research. Div. 16. Room 204, Cleveland College** (George D. Spache, Chairman)

9:50–10:50 **Committee on Inter-Division Relationships. Div. 16. Room 403, Cleveland College** (Stella Whiteside, Chairman)

9:50–12:00 **Group Influence on Individual Behavior. Div. 8. Mather Room, Allerton** (Leon Festinger, Chairman)

9:50 Group pressures toward selection and distortion of content in communication and cognition. Bertram H. Raven

10:05 Cognitive and affective factors associated with attitude change. Walter H. Crockett

10:20 The effect of different dimensions of disagreement upon the influence process in small groups. Harold B. Gerard

10:35 Three situational determinants of conformity to social norms. Solomon C. Goldberg

11:10 Effects of group procedures on psychological satiation in members. Murray Horwitz, Ralph V. Exline, Morton Goldman, and Francis J. Lee

11:15 A methodological study of tape-recorded synthetic group atmospheres. James V. McConnell and Robert R. Blake

3:00 Invited Discussants: Theodore M. Newcomb and Leon Festinger

11:00–12:00 **Problem Solving. Div. 15. Assembly Room Hollenden** (Walter N. Durost, Chairman)
11:00 An empirical study of characteristics of the problem-solving process. Dora E. Damrin
11:15 Abstract thinking of children differing in family status and age-grade. Donald C. Findlay and Carson McGuire
11:30 A study of the production of creative ideas. Priscilla Meyer
11:45 Differences in the quality of the solution to a practical field problem at various degees of remoteness from reality. Louis Aikman, Irving Lorge, Jacob Tuckman, Joseph Spiegel, and Gilda Moss

11:00–1:00 **Symposium: Research which Combines Clinical and Experimental Methods. Div. 12. Ballroom, Cleveland**
Sibylle Escalona, Chairman; Herbert F. Wright, George S. Klein, and George F. Mahl

11:00–1:00 **Symposium: The Personnel Research Function in Industry. Div. 14. Empire Room, Cleveland**
Chester E. Evans, Chairman; V. J. Bentz, Harland N. Cisney, Robert N. Ford, and James E. Oliver

11:00–1:00 **Symposium: The Contribution of Research to Counseling. Div. 17. Ballroom, Allerton**
Leona E. Tyler, Chairman; Paul L. Dressel, Gordon V. Anderson, E. Gordon Collister, and Dorothy M. Clendenen

SATURDAY AFTERNOON AND EVENING, SEPTEMBER 5

12:00–2:00 **Luncheon and Presidential Address. Div. 16. Coral Room, Hollenden**
Frances A. Mullen. Therapy and the School Psychologist

12:15 **Luncheon, International Council of Women Psychologists. Rooms 32, 34, and 36, Cleveland**

1:30–2:30 **Differing Approaches in Child Psychology. Div. 7. Ohio Room, Statler** (Joseph M. Bobbitt, Chairman)
1:30 A study of experimentally induced frustration in boys from contrasting school atmospheres. Florence B. Ricciuti
1:45 A study of wishes of children and adolescents. Henry V. Cobb
2:00 Personality development as reflected in Rorschach behavior: a case study. T. W. Richards
2:15 Convergence: an accelerated longitudinal approach. Richard Q. Bell

1:30–2:30 **School Achievement. Div. 15. Cypress Room, Hollenden** (T. Ernest Newland, Chairman)
1:30 A report on the final academic achievement of thirty-six mentally handicapped boys who had been enrolled in a prolonged pre-academic program. Bluma B. Weiner
1:45 Differential decline in Graduate Record Examination scores with age. R. Travis Osborne and Wilma B. Sanders
2:00 Correlations between students' perceptions of school and achievement in school. Leslie F. Malpass
2:15 Study habits and attitudes in the prediction of academic success. Wayne H. Holtzman and William F. Brown

1:30–2:30 **Counseling: Technique and Outcome. Div. 17. Chester Room, Allerton** (John M. Butler, Chairman)
1:30 Changes in self-ratings as a method of evaluating counseling. Ralph F. Berdie
1:45 The relation between changes in attitudes during counseling and the counselor's estimate of improvement in adjustment. Thomas N. Ewing
2:00 Characteristic techniques of experienced counselors differing in viewpoint. David G. Danskin and Francis P. Robinson
2:15 Some audio-mirror effects of TAT stories upon self-awareness. Everett L. Sutter, Bill L. Kell, and Carson McGuire

1:30–3:30 **Symposium: Sociological and Anthropological Perspective on Small Group Research. Div. 9. Ballroom, Allerton**

Bernard G. Rosenthal, Chairman; Edward Shils, George C. Homans, Muzafer Sherif, and Ronald Lippitt

1:30–3:30 **Symposium: Some Fundamental Issues in the Consulting Relationship. Div. 12, 13, and 14. Ballroom, Statler**

Morton A. Seidenfeld, Chairman; Phyllis F. Bartelme, Francis W. Hibler, Aaron B. Nadel, Marion W. Richardson, and Edward I. Strongin

1:30–3:30 **The Authoritarian Syndrome Div. 8. Mather Room, Allerton** (R. Nevitt Sanford, Chairman)

1:30 Authoritarianism and leadership choice in a military setting. E. P. Hollander

1:45 The relation of the F scale to a response to answer positively. Thomas S. Cohn

2:00 Personality-centered research and psychological unification. George G. Stern

2:15 Authoritarian ideology and child-rearing attitudes. Solis L. Kates and Lutfy Diab

2:30 The role of authoritarianism in the perception and evaluation of a prospective leader. Edward E. Jones

2:45 How neurotic is the authoritarian? Joseph M. Masling

3:00 Invited discussants: Else Frenkel-Brunswik and R. Nevitt Sanford

2:40–3:40 **Factors in Child-Rearing Practices. Div. 7. Ohio Room, Statler** (Joseph E. Brewer, Chairman)

2:40 Preliminary report on a study of identification. Robert R. Sears

2:55 Child-rearing factors related to playing of sex-typed roles. Pauline Snedden Sears

3:10 Effects of parental punishment on young children's overt and fantasy aggression. Harry Levin

3:25 Social class differences in child-rearing. Eleanor E. Maccoby and Patricia K. Gibbs

2:40–3:40 **Conceptualization in Schizophrenia. Div. 12. Ballroom, Cleveland** (Samuel Kutash, Chairman)

2:40 Conceptualization of word meanings by normal and schizophrenic subjects. Louis J. Moran

2:55 A study of conceptualization in schizophrenia through the use of the visual-verbal test. James Drasgow and Marvin J. Feldman

3:10 The effect of the emotional tone of words upon the vocabulary responses of schizophrenics. Joseph Richman

3:25 Measures of reality orientation. Robert L. McFarland, Wesley Becker, Richard Docter, Alwyn Sessions, and Leonard Ullmann

2:40–3:40 **Accident and Highway Research. Div. 14. Empire Room, Cleveland** (Joseph Tiffin, Chairman)

2:40 Time intervals between accidents. Alexander Mintz

2:55 Hypnagogic hallucinations in relation to accidents. Alfred L. Moseley

3:10 Distance judgment of colored objects. Harry W. Case, George E. Mount, J. Wesley Sanderson, and R. Brenner

3:25 The development of criteria for safe operation for groups. Harry W. Daniels

2:40–3:40 **Evaluation. Div. 15. Coral Room, Hollenden** (Herbert S. Conrad, Chairman)

2:40 A factorial comparison of five mental abilities using scores derived from speeded and unspeeded tests. William W. Mahan, Jr. and Benjamin Fruchter

2:55 A four-year study of selected socioeducational variables and the Minnesota Personality Scale. Alice L. Palubinskas

3:10 The effect of a speed-set on the acquisition of accuracy in a complex motor skill. Leonard J. West
3:25 Evaluation of teacher understanding of child behavior. Willard H. Nelson

2:40–3:40 Business Meeting. Div. 16. Cypress Room, Hollenden

2:40–3:40 Counseling: Differential Diagnosis. Div. 17. Chester Room, Allerton (Paul C. Greene, Chairman)
2:40 Relationships among expressed acceptance of self, expressed acceptance of others, and the MMPI. Emanuel M. Berger
2:55 A factor analysis of pretherapy self-descriptions. Sarah Counts
3:10 Tests in the tenth grade as predictors of graduating status and status on college entrance tests. Harold G. Seashore
3:25 Differences in measured interests, values, and personality among students majoring in nine subject areas. Carl Sternberg

3:50 Business Meeting. International Council of Women Psychologists. Room 31, Cleveland

3:50–4:50 Schizophrenia. Div. 12. Ballroom, Cleveland (Helen Sargent, Chairman)
3:50 An investigation of perceptual and interpretative processes of a group of overtly aggressive as contrasted with a group of overtly nonaggressive schizophrenic patients. Theodore E. Burik
4:05 Perception of homosexual words in paranoid schizophrenia. Paul G. Daston
4:20 Reward and punishment as determiners of reminiscence effects in schizophrenic and normal subjects. Robert Bleke
4:35 Reality sense in schizophrenic patients. Ruth A. Neu

3:50–4:50 Business Meeting. Div. 14. Empire Room, Cleveland

3:50–4:50 Communications. Div. 15. Coral Room, Hollenden (Carl I. Hovland, Chairman)
3:50 Readability: an appraisal of application. Jeanne Chall
4:05 Psychological factors in educational television. Martin F. Fritz
4:20 The role of motivation in the effects of "active review" on learning from a factual film. Seymour Levine
4:35 Noncognitive personality dimensions as indices of reading improvement at the college level. Donald E. P. Smith and Roger L. Wood

3:50–5:50 Symposium: The Problem of Dual Loyalties in Union-Management Relations. Div. 8. Otis Room, Allerton
Ross Stagner, Chairman; Theodore Purcell, Willard Kerr, Walter Gruen, and Hjalmar Rosen

3:50–5:50 Symposium: The Training of PhD's in Social Psychology. Div. 9. Ballroom, Allerton
Stuart W. Cook, Chairman; Theodore M. Newcomb, Carl I. Hovland, Richard L. Solomon, David C. McClelland, and Charles Y. Glock

3:50–5:50 Informal Discussion of Members with Officers of the Division. Div. 12. Room 26 and Room 28, Cleveland

3:50–5:50 Presidential Address and Business Meeting. Div. 13. Ohio Room, Statler
Morton A. Seidenfeld. The Pathology of Normality

3:50–5:50 Presidential Address and Business Meeting. Div. 17. Chester Room, Allerton
Mitchell Dreese. The Uniqueness of the American Point of View in Counseling and Guidance

4:00–7:00 **Reunion, Personnel Research Branch, TAGO. Parlors A, B, and C, Hollenden**

5:00–6:00 **Personality Attributes of Special Groups. Div. 12. Ballroom, Cleveland** (Aaron B. Nadel, Chairman)

5:00 Preferences of neurotic and nonmaladjusted individuals for success and failure. Harold A. Levine

5:15 Motivational variables in the assuming of combat obligations. Lee B. Sechrest and John K. Hemphill

5:30 Scientists and sanity. George T. Lodge and Earl G. Guyer

5:45 Personality characteristics of residents in psychiatry. Clare W. Thompson and Martha W. MacDonald

5:00–6:00 **Group Process. Div. 15. Coral Room, Hollenden** (Paul Witty, Chairman)

5:00 The effects of role playing upon the social atmosphere of a small group of sixth-grade children. Andrew H. Souerwine and Kathryn L. Conway

5:15 Some problems in the rational assembly of groups. Thornton B. Roby

5:30 Decisions written by *ad hoc* staffs and simulated commanders. Irving Lorge, Paula Weltz, David Fox, and Kenneth Herrold

5:45 Comparison of decisions written by large and small groups. David Fox, Irving Lorge, Paula Weltz, and Kenneth Herrold

5:50 **Social Hour. Div. 17. Parlor A, Allerton**

7:00 **Dinner and Presidential Address. Div. 14. Cyress Room, Hollenden**
Jay L. Otis. Whose Criteria?

7:30 **Business Meeting. Div. 9. Ballroom, Allerton**

7:30–9:30 **New Executive Committee Meeting. Div. 16. Parlor E, Hollenden**

8:00 **Presidential Address and Business Meeting. Div. 12. Ballroom, Cleveland**
O. Hobart Mowrer. Clinical Psychology, 1953: A Tribute, a Warning, and a Conviction

8:30 **Presidential Address. Div. 9. Ballroom, Allerton**
Dorwin Cartwright. Toward a Social Psychology of Groups

SUNDAY MORNING, SEPTEMBER 6

8:40–9:40 **Personality, General. Div. 8. Ballroom, Allerton** (Arthur Jenness, Chairman)

8:40 Cognitive, motor, and perceptual "perseveration" in relation to two situational tests. Dorothy N. Boileau, Paul Gump, and Kenneth R. Hammond

8:55 Some relationships between Einstellung effect and level-of-aspiration behavior. Norman I. Harway

9:10 Leader-group rigidity and group cohesiveness: determinants of group problem-solving processes and concomitant affective group behavior. Robert C. Ziller

9:25 An objective analysis of facial expressions associated with emotional situations. Milton Lepkin and Floyd H. Allport

8:40–9:40 **Shock Therapy. Div. 12. Ballroom, Cleveland** (J. L. Yager, Chairman)

8:40 Types of personal life memories forgotten following electroconvulsive therapy. Joe T. Carter

8:55 The effect of electroconclusive therapy on the visual perceptual reactions of schizophrenic patients. Arthur Teicher

9:10 An investigation of some psychological effects of electric shock treatment. Murray Korngold

9:25 A critique of psychiatric and psychological research on insulin coma treatment for schizophrenia. Henry P. David

3:50–4:50 **Field Research Results. Div. 5. Coral Room, Hollenden** (George K. Bennett, Chairman)

3:50 A comparison of two methods of collecting data for social research: the fixed-alternative questionnaire and the open-ended interview. Robert L. Kahn

4:05 Normative test data for adult males obtained by house-to-house testing. Elizabeth P. Hagen and Robert L. Thorndike

4:20 Quantification of interviewer behavior. E. K. Beller

4:35 Validity of prediction of soldiers' food preferences by laboratory methods. David R. Peryam and John G. Haynes

3:50–4:50 **Kurt Lewin Memorial Award Address and Industrial Relations Award Winner Announcement. Div. 9. Ballroom, Statler**

Gardner Murphy. Human Potentialities

3:50–4:50 **Aspects of Personality Dynamics, I. Div. 12. Ballroom, Cleveland** (Walter L. Wilkins, Chairman)

3:50 Derived correlations as a possible means of studying drive patterns. J. R. Wittenborn

4:05 Measurement of impulses, ego, and superego. II. Dynamics of psychopathology. Morton S. Slobin and Lawrence A. Dombrose

4:20 The relationships among projection, empathy, reality, and adjustment, operationally defined. Ralph D. Norman and Patricia Ainsworth

4:35 An anxiety-reduction theory of humor. Julius Laffal, Jacob Levine, and Frederick C. Redlich

3:50–5:50 **Presidential Address and Business Meeting. Div. 2. Assembly Room, Hollenden**

Elizabeth B. Hurlock. Psychologists, Come Out of the Ivory Towers

3:50–5:50 **Symposium: The Application of Bionic Theory to the Study of Groups. Div. 8. Ballroom, Allerton**

Herbert A. Thelen, Chairman; Saul Ben-Zeev, Ida Heintz, William F. Hill, Dorothy Stock, and Theodore M. Newcomb

3:50–5:50 **Symposium: Constructive Failures in Industrial Projects. Div. 14. Empire Room, Cleveland**

Michael Erdelyi, Chairman; F. K. Berrien, Bernard J. Covner, Harold A. Edgerton, and Robert F. Peck

3:50–5:50 **Presidential Address and Business Meeting. Div. 18. Room 345, Statler**

Herbert S. Conrad. Rating the Merit of Merit Systems

4:00–6:00 **Informal Meeting. Ohio State University Alumni. Parlor B, Hollenden**

4:00–5:00 **VA Special Interest Session: Tuberculosis. Room 34, Cleveland**

5:00–6:00 **Aspects of Personality Dynamics, II. Div. 12. Ballroom, Cleveland** (Irwin J. Knopf, Chairman)

5:00 The effect of hypnotically induced hostility on Rorschach responses. Frank A. Pattie

5:15 Rorschach changes during psychotherapy in relation to personality of the therapist. Joseph G. Sheehan

5:30 Some aspects of the relationship between "understanding" and "acceptance" of others. Verne Kallejian

5:45 Some reactions to first remembered sexual climax. Glen A. Brackbill and Yvonne Wilcox

5:00–6:00 **VA Special Interest Session: Domiciliary Problems. Room 31, Cleveland**

6:00 **Social Hour. Div. 18. Parlor C, Statler**

6:30 **Dinner. Purdue University Alumni. Rose Room, Cleveland**

7:30 **Reception. Div. 3. Parlors F, G, and H, Statler**

8:00 **Invited Address Arranged by the Conference of State Psychological Associations. Ballroom, Allerton** (Charles N. Cofer, Chairman)
David W. Louisell, Professor of Law, The Law School, University of Minnesota. The Psychologist in the Legal World

MONDAY MORNING, SEPTEMBER 7

8:40–9:40 **Comparative. Div. 3. Pine Room, Statler** (Arthur J. Riopelle, Chairman)
8:40 The stimulus control of approach in the male rat. Herbert M. Jenkins .
8:55 The solution of oddity and non-oddity problems by the rat. Jerome Wodinsky and M. E. Bitterman
9:10 Maturation and learning in the development of pecking accuracy in chicks. Eckhard H. Hess
9:25 A survey of puzzle manipulation. Robert W. Leary

8:40–9:40 **Leadership and Social Influence. Div. 8. Mather Room, Allerton** (John K. Hemphill, Chairman)
8:40 Personality differences found in small-group leaders selected by four independent criteria of leadership. Glen F. Stice and Raymond B. Cattell
8:55 Popularity and conformity to group norms. Henry W. Riecken
9:10 The relation between attraction, being valued, and communication in a formal organization. Jay M. Jackson
9:25 Some perceptual and behavioral components of social influence in small groups, as predicted by interpersonal adjustment in previous social environments. Sidney Rosen

8:40–10:40 **Group Discussion: Criteria for Evaluating the Teaching of Basic Psychology. Div. 2. Assembly Room, Hollenden**
B. von Haller Gilmer, Chairman; Theodore Landsman, and Robert M. Travers

8:40–10:40 **Symposium: Situational Performance Tests. Div. 5 and Psychometric Society. Ballroom, Hollenden**
John C. Flanagan, Chairman; Bernard M. Bass, Launor F. Carter, Donald W. Fiske, E. Lowell Kelly, and Robert L. Weislogel

8:40–10:40 **Symposium: Teaching Psycho- and Sociodynamics. Div. 12 and 17. Ballroom, Cleveland**
Milton Schwebel, Chairman; Kenneth Clark, Austin Wood, and Philip Zlatchin

8:40–10:40 **Symposium: Management Behavior and Organizational Effectiveness. Div. 14. Empire Room, Cleveland**
Donald E. Baier, Chairman; Gilbert David, L. Rene Gaiennie, John H. Gorsuch, Stanley E. Seashore, and Ralph M. Stogdill

8:40–12:00 **Open Meeting on Examinations and Procedures. American Board of Examiners in Professional Psychology. Rose Room, Cleveland**

9:00–12:00 **Film Showing, III. Experimental-Physiological. Committee on Audio-Visual Aids. Assembly B, Cleveland**
9:00 Vision with spatial inversion. N. H. Pronko and F. W. Snyder
9:20 Experimental neuroses in monkeys. J. H. Masserman and C. Pechtel
9:45 The effect of electro-convulsive shock (ECS) on "conditioned anxiety." H. F. Hunt and J. V. Brady
10:05 Experiments in behavioral changes following paleo cortical injury in cats. U. S. Army

10:50 Experiments in behavioral changes following paleo cortical injury in rodents, carnivores, and primates. U. S. Army
11:15 Subcortical relationships and behavior in the albino rat. J. V. Brady and W. J. H. Nauta

9:50–11:50 Symposium: Some Psychological Problems in Communications Research. Div. 3. Pine Room, Statler
Alphonse Chapanis, Chairman; John E. Karlin, Brockway McMillan, W. A. Munson, and M. W. Baldwin, Jr.

9:50–11:50 Symposium: The Role of Social Research in Political and Social Decision. Div. 8 and 9. Ballroom, Allerton
Gardner Murphy, Chairman; James M. Mitchell, Elmore Jackson, Alfred C. Wolf, Harvey S. Perloff, and Eugene Katz

11:00–12:00 Statistical Developments. Div. 5 and Psychometric Society. Ballroom, Hollenden (Robert Wherry, Chairman)
11:00 A new chi-square technique for testing second-order relationships. Donald C. Pelz
11:15 A method of scalogram analysis using summary statistics. Bert F. Green, Jr.
11:30 The correlation between a real dichotomy and an enforced dichotomy. Marion F. Shaycroft
11:45 An analytical method for rotation to orthogonal simple structure. David R. Saunders

11:00–1:00 Group Discussion: Psychology in Medical Education. Div. 2. Assembly Room, Hollenden
Ivan N. Mensh, Chairman; Ija N. Korner, Arthur Weider, Adella C. Youtz, and Roy M. Dorcus

11:00–1:00 Symposium: Developing Psychological Acceptance of the Disability in Counseling Adolescents and Young Adults. Div. 12 and 17. Ballroom, Cleveland
Salvatore G. DiMichael, Chairman; Samuel A. Kirk, James F. Garrett, Louis S. Cholden, Irving S. Fusfeld, and Daniel H. Harris

11:00–1:00 Symposium: Personnel Evaluation—Methods and Techniques in Management Selection. Div. 14. Empire Room, Cleveland
Henry L. Sisk, Chairman; Roy A. Doty, Robert N. McMurry, and Henry D. Meyer

MONDAY AFTERNOON AND EVENING, SEPTEMBER 7

12:00 Luncheon. Psi Chi. Chester Room, Allerton

1:30–2:30 Verbal Learning. Div. 3. Pine Room, Statler (Harold Schlosberg, Chairman)
1:30 The effect of anticipation upon memory interference. Claire Zimmerman
1:45 Associative clustering as a function of verbal association strength. Wallace A. Russell, James J. Jenkins, and Walter D. Mink
2:00 An artifact of retroactive inhibition. Edgar L. Shriver
2:15 The effect of frequency of repetition on the retention of auditory material presented during sleep. Thomas G. Stampfl

1:30–2:30 Self Image and Personality. Div. 8. Ballroom, Allerton (Donald W. Fiske, Chairman)
1:30 Aniseikonia and distortion of the self-image. Warren J. Wittreich
1:45 Situational structure and individual self-esteem as determinants of power-threat. Arthur R. Cohen
2:00 A study of relationships existing between certain aspects of personality and some vocal effects of delayed speech feedback. B. Spilka
2:15 The relationship of defensiveness to rating-scale bias. Horace A. Page and Gloria Markowitz

1:30–2:30 Small Discussion Group: Research Approaches to Questions of Civil Rights and Academic Freedom. Div. 9. Parlor A, Allerton
(Marie Jahoda and Richard Christie, Co-Chairmen)

1:30–2:30 **Studies on Music. Div. 10. Rose Room, Cleveland** (Robert W. Lundin, Chairman)
1:30 The interpersonal signification of music. Genevieve O. Rogge
1:50 Suggestions for improving the Hevner "mood-clock." Paul R. Farnsworth
2:10 The importance of musical memory in musical performance. Raleigh M. Drake

1:30–3:30 **Symposium: What Next in Factor Analysis? Div. 5 and Psychometric Society. Coral Room, Hollenden**
Ledyard R Tucker, Chairman; Clyde H. Coombs, Harry H. Harman, Frederick B. Davis, Raymond B. Cattell, and John W. French

1:30–3:30 **Symposium: Contribution of Projective Techniques to the Understanding of Basic Psychopathology. Society for Projective Techniques. Ballroom, Hollenden**
Pauline G. Vorhaus, Chairman; Charlotte Buhler, Isabelle V. Kendig, Leslie Phillips, Zygmunt A. Piotrowski, George K. Yacorzynski, Walter G. Klopfer, and T. W. Richards

1:30–4:00 **Psi Chi Meetings. Otis Room, Allerton**
1:30–3:00 Program of research papers
3:00–4:00 Business meeting

2:00–4:00 **Film Showings, II. Genetic and Social Psychology. Committee on Audio-Visual Aids. Assembly B, Cleveland.** (For titles see Film Showings on Friday afternoon.)

2:40–3:40 **Symbolic Processes. Div. 3. Pine Room, Statler** (Charles N. Cofer, Chairman)
2:40 Semantic generalization of a conditioned autonomic response formed without awareness. John I. Lacey and Robert L. Smith
2:55 Cognitive effects of a decreased variation in the sensory environment. W. Heron, W. H. Bexton, and D. O. Hebb
3:10 Free-choice strategies in concept attainment. Jerome S. Bruner, George A. Austin, and Robert V. Seymour
3:25 Fixed-choice strategies in concept attainment. George A. Austin, Jerome S. Bruner, and Robert V. Seymour

2:40–3:40 **Personality Measurement, I. Div. 8. Ballroom, Allerton** (Sheldon J. Korchin, Chairman)
2:40 The perception of movement and posture using ambiguous drawings of the human figure. M. Kershaw Walsh, Elizabeth Kent Laux, Herschel Hudson, and Lawrence Yates
2:55 Threshold for perception of human movement in inkblots, and its personality correlates. Frank Barron
3:10 Correlates of individual behavior in a controlled group situation. Richard S. Crutchfield
3:25 Socialization, personality, and mental processes. Adma J. d'Heurle and Ernest A. Haggard

2:40–3:40 **Business Meeting. Div. 19. Ohio Room, Statler**
Paul M. Fitts, President

2:40–4:40 **Demonstration and Discussion: Role Playing as a Training Method. Div. 2. Assembly Room, Hollenden** (Rosemary Lippitt, Chairman)

2:40–4:40 **Presidential Address and Business Meeting. Div. 10. Rose Room, Cleveland**
Herbert S. Langfeld. Twice-Told Concepts in Aesthetics

2:40–4:40 **Symposium: Are Projective Test Data Valid Bases for Prediction? Div. 12 and the Society for Projective Techniques. Ballroom, Cleveland**
Marguerite R. Hertz, Chairman; Bertram R. Forer, Robert G. Gibby, Roy M. Hamlin, Percival M. Symonds, E. Lowell Kelly, George A. Muench, and Richard W. Wallen

2:40–4:40 **Symposium: Approaches in the Prediction of Job Success. Div. 14. Empire Room, Cleveland**
Donald Thistlethwaite, Chairman; Eugene L. Gaier, Harry M. Mason, Louis L. McQuitty, and Lawrence M. Stolurow

3:50–4:50 **Presidential Address and Business Meeting. Div. 3. Ballroom, Statler**
Neal E. Miller. Some Studies of Drive and Drive Reduction

3:50–4:50 **Business Meeting. Div. 5. Coral Room, Hollenden**

3:50–4:50 **Committee on Methods of Group Consultation. Div. 9. Oak Room, Allerton**

3:50–5:50 **Symposium: The Current Status of Empathy as a Hypothetical Construct in Psychology. Div. 8. Ballroom, Allerton**
Graham B. Bell, Chairman; H. L. Ansbacher, N. L. Gage, Boris J. Speroff, Donald Snygg, and A. S. Luchins

4:00–6:00 **Business Meeting. Society for Projective Techniques. Ballroom, Hollenden**

5:00–6:00 **Business Meeting. Psychometric Society. Coral Room, Hollenden**

5:00–6:00 **Evaluation of Therapy. Div. 12. Ballroom, Cleveland** (Irwin A. Berg, Chairman)
5:00 Rorschach criteria for predicting duration of therapy. E. Wesley Hiler, Bernard A. Stotsky, Daniel R. Miller, and Robert G. Gibby
5:15 Short-term group therapy: an experimental investigation of effectiveness for psychotics and a comparison of different therapeutic methods and different therapists. Stanley D. Imber
5:30 Evaluation of psychotherapy at a Veterans Administration mental hygiene clinic. Philip W. Morse
5:45 Evaluation of outcome of treatment in the somatotherapies. Virginia Staudt and Joseph Zubin

5:00–6:00 **Supervision and Attitudes. Div. 14. Empire Room, Cleveland** (Harold C. Taylor, Chairman)
5:00 The widening gap in executive-supervisory attitudes—a nationwide survey. David A. Emery
5:15 Supervisory and administrative practices associated with worker attitudes toward an incentive system. Gerald M. Mahoney
5:30 Productivity, employee attitude, and supervisor sensitivity. Bryant F. Nagle
5:45 Some aspects of the manager-employee relationship in the retail grocery. Pietro V. Marchetti

5:30–6:30 **Social Hour. Div. 19. Parlor E, Statler**

6:30 **Dinner and Presidential Addresses. Div. 5 and Psychometric Society. Assembly Room, Hollenden**
Dorothy C. Adkins, President, Div. 5. The Simple Structure of the American Psychological Association
Robert L. Thorndike, President, Psychometric Society. Who Belongs in the Family?

7:00 **Dinner and Presidential Address. Society for Projective Techniques. Parlor B, Hollenden**
John E. Bell. Projective Techniques and the Development of Personality

7:30 **Reception. Div. 3. Parlors F, G, and H, Statler**

8:00 **Presidential Address, Business Meeting, and Social Hour. Div. 1. Ballroom, Allerton**
Edward C. Tolman. Principles of Performance

8:00 **Presidential Address and Business Meeting. Div. 8. Ballroom, Cleveland**
O. Hobart Mowrer. A Re-Evaluation of "Habit" in Personality and Social Psychology

8:00 **Open Meeting. International Council of Women Psychologists. Ballroom, Hollenden**
Panel Discussion. International Communication: A Psychological Problem. Amyia Chakravarty, Marie Jahoda, and Arthur G. Bills; Dorothy Van Alstyne, Chairman

TUESDAY MORNING, SEPTEMBER 8

8:40–9:40 **General Psychology, I. Div. 1. Otis Room, Allerton** (Vaughn Crandall, Chairman)
8:40 Learning as a function of word frequency. John F. Hall
8:55 Influence of color upon form perception. William T. Doidge and Wayne H. Holtzman
9:10 A normative study of the behavior of caged macaque monkeys. Arnold A. McDowell
9:25 An experimental investigation of hereditary differences in behavior in dogs. John L. Fuller

8:40–9:40 **Physiological, I. Div. 3. Ohio Room, Statler** (Harry W. Braun, Chairman)
8:40 A study of avoidance conditioning under mild and extreme hyperthyroidism. James O. Whittaker
8:55 The interaction of anxiety and ambient temperature in the production of palmar sweat. Robert A. McCleary
9:10 The relationship between instructions and problem difficulty on muscular tension levels during problem solution. Mary E. Reuder
9:25 An electromyographic study of listening and talking. A. Arthur Smith, Robert B. Malmo, and Charles Shagass

8:40–9:40 **Personality Measurement, II. Div. 8. Mather Room, Allerton** (Boyd McCandless, Chairman)
8:40 Effect of experimental arousal of the affiliation motive on thematic apperception. John W. Atkinson, Roger W. Heyns, and Joseph Veroff
8:55 The application of psychoanalytic measures of personality to the study of social behavior. Jeanne Watson
9:10 An experimental investigation of the Defense Preference Inquiry for the Blacky Pictures. E. Robert Sinnett
9:25 Some principles of personality measurement. Jane Loevinger

8:40–9:40 **Group Performance and Leadership. Div. 19. Pine Room, Statler** (Howard E. Page, Chairman)
8:40 Relationships between individual proficiency and simulated radar bombing effectiveness. William D. Voiers
8:55 Group effectiveness in bomber crews: analysis of in-flight procedures as a criterion source. T. F. Cloonan, D. G. Forgays, and B. Spilka
9:10 The relation between criteria for B-29 total crew performance and criteria for the performance of the individual crew members. Roderick H. Bare
9:25 Criteria of military leadership: I. A factor analysis of rating-scale variables. Norman E. Willmorth and Wallace B. Lindelien

8:40–10:40 **Group Discussion: Teaching Aids in Psychology, with Special Emphasis on Films. Div. 2. Assembly Room, Hollenden**
Elizabeth B. Hurlock, Chairman; Sumner L. Crawley, Victor W. Eimicke, David Leake, and Norman Munn

8:40–10:40 **Symposium: High Speed Computers. Div. 5 and Psychometric Society. Coral Room, Hollenden**
Lloyd Humphreys, Chairman; Charles Wrigley, John M. Leiman, Frederic M. Lord, and Eugene S. Gordon

8:40–10:40 **Small Discussion Group: Rigidity of Behavior and the Einstellung Effect. Div. 8. Parlor A, Allerton** (A. S. Luchins, Chairman. Pre-meeting communication requested.)

8:40–10:40 **Symposium: Implications for Projective Methods in Recent Developments in Personality Theory. Div. 12 and Society for Projective Techniques. Ballroom, Cleveland**
Jules D. Holzberg, Chairman; Frank Auld, Jr., Morton Deutsch, Charles W. Eriksen, Roy Schafer, Gardner Murphy, and R. Nevitt Sanford

8:40–10:40 **Symposium: Value and Use Made of Recently Published Materials in Business and Industrial Psychology. Div. 14. Empire Room, Cleveland**
Thomas W. Harrell, Chairman; Roger M. Bellows, J. Elliott Janney, Robert B. Selover, and Milton L. Blum

8:40–10:40 **Symposium: What Can the Psychologist Do on Estimating Fitness to Continue Work in Old Age. Div. 20. Chester Room, Allerton**
Jacob Tuckman, Chairman; Albert I. Rabin, Rose E. Kushner, George H. Johnson, and Albert I. Lansing

8:40–10:40 **Business Meeting. Psychometric Corporation. Parlor A, Hollenden**

9:00–5:00 **Second Session. Council of Representatives, APA. Rose Room, Cleveland** (Open to all APA members)

9:00–11:00 **Film Showings, IV. Miscellaneous Films. Committee on Audio-Visual Aids. Assembly B, Cleveland**

9:50–10:50 **Physiological, II. Div. 3. Ohio Room, Statler** (Richard L. Solomon, Chairman)
9:50 The effect of carbon disulphide convulsions on a conditioned emotional response. Howard F. Hunt and Leon S. Otis
10:05 The effect of electroconvulsive shock (ECS) on a conditioned emotional response: the effect of additional ECS convulsions upon the reappearance of the response. William C. Stebbins, Joseph V. Brady, and Howard F. Hunt
10:20 Effects of electroshock convulsions on the solution of discrimination-reversal problems by monkeys. Harry W. Braun, R. A. Patton, and H. W. Barnes
10:35 The effects of ergotoxine ethanesulfonate on audiogenic seizure sensitivity. Randall M. Chambers

9:50–10:50 **Discrimination Learning, I. Div. 3. Pine Room, Statler** (Gregory A. Kimble, Chairman)
9:50 Auditory generalization and discrimination in the pigeon. George A. Heise
10:05 Rate of learning during successive discrimination reversals in relation to trial spacing. Donald W. Lauer and William K. Estes
10:20 Stimulus generalization of an instrumental response as a function of the number of reinforcements. Garry Margolius
10:35 A mathematical model and an electronic model for learning. L. Benjamin Wyckoff, Jr.

9:50–10:50 **Symposium: The Problem of Military Delinquency. Div. 19. Ballroom, Statler**
Frederick A. Zehrer, Chairman; J. Douglas Grant, Ronald C. Force, Benjamin Overstreet, William R. Perl, and Hobart Osburn

9:50–11:50 **Symposium: Social and Personality Factors in Perception. Div. 1. Ballroom, Allerton**
Elliott McGinnies, Chairman; Richard S. Lazarus, Davis Howes, and A. S. Luchins

9:50–11:50 **Symposium: Profits and Problems in the Application of Homeostatic and Other Formal Models in the Behavioral Sciences. Div. 8. Mather Room, Allerton**
James G. Miller, Chairman; Jacob Marschak (Economics), Ralph W. Gerard (Physiology), Anatol Rapoport (Mathematical Biology), David Easton (Political Science), and Donald T. Campbell

11:00–12:00 **Physiological, III. Div. 3. Ohio Room, Statler** (Karl H. Pribram, Chairman)

11:00 The temporary elimination of discrimination and fear by sodium pentobarbital injections (dog). Ogden R. Lindsley and Walter W. Jetter

11:15 Control of hoarding activity in rats by the median cerebral cortex. John S. Stamm

11:30 Time-error for tactual size judgments after brain injury. Sidney Weinstein

11:45 Judgment of visual vertical after frontal lobe injury. Hans-Lukas Teuber and Mortimer Mishkin

11:00–12:00 **Discrimination Learning, II. Div. 3. Pine Room, Statler** (William K. Estes, Chairman)

11:00 Nonspatial delayed response in sophisticated chimpanzees. Keith J. Hayes

11:15 Partial reinforcement and discrimination training. Delos D. Wickens and Joseph J. Panakal

11:30 Position preference and discrimination learning. Marvin Goer and M. Ray Denny

11:45 One-trial discrimination reversal in the white rat. Gregory A. Kimble and Norman Guttman

11:00–12:00 **New Test Ideas. Div. 5. Coral Room, Hollenden** (Robert L. Thorndike, Chairman)

11:00 Temporal aspects of inventive responses. P. R. Christensen, R. C. Wilson, and J. P. Guilford

11:15 Scoring problem-solving test items by measuring information. Robert Glaser and Paul A. Schwarz

11:30 The development of a sound motion picture proficiency test. C. J. McIntyre, C. R. Carpenter, L. P. Greenhill, W. F. Hittinger, E. P. McCoy, J. A. Murnin, and R. W. Watkins

11:45 The construction and analysis of a battery for measuring fluency in English as a foreign language. Harry Kaplan, Rudolph G. Berkhouse, and V. M. Tye

11:00–12:00 **Social Attitudes and Behavior. Div. 12. Ballroom, Cleveland** (Julius Seeman, Chairman)

11:00 Projected familial attitudes as a function of socioeconomic status and psychopathology. Jerome L. Singer

11:15 Sociometric choice and the Szondi Test. David Pearl and Durand F. Jacobs

11:30 Sociometric structure and group values on a mental hospital service for criminally insane. Benjamin Pope

11:45 The frequency and intensity of negative attitudes expressed in play therapy: a comparison of well-adjusted and disturbed young children. Clark E. Moustakas

11:00–12:00 **Selection. Div. 14. Empire Room, Cleveland** (Orlo L. Crissey, Chairman)

11:00 The efficacy of temperament measures in industrial selection. Frederick Herzberg

11:15 The generalized distance function and differential aptitude testing. John R. Boulger

11:30 The application of research methods to a personnel study of a small staff group. Dora F. Capwell and Frederick Herzberg

11:45 A comparison of visual acuity measurements by wall charts and Ortho-Rater tests. Joseph Zeidner and Donald A. Gordon

11:00–12:00 **Business Meeting. Div. 20. Chester Room, Allerton**

11:00–1:00 **Group Discussion: Teaching Psychology on Television. Div. 2. Assembly Room, Hollenden** Wilbert J. McKeachie, Chairman; Martin F. Fritz, Eleroy L. Stromberg, Richard W. Husband, and Richard I. Evans

TUESDAY AFTERNOON AND EVENING, SEPTEMBER 8

12:00–1:30 **Luncheon. Harvard Graduate School of Education. Room 31, Cleveland**

1:30–2:30 **Reinforcement and Learning. Div. 3. Pine Room, Statler** (K. C. Montgomery, Chairman)

1:30 Theories of reinforcement and the reinforcement threshold. Norman Guttman

1:45 Negative reinforcing effects of insulin injections. H. W. Coppock, C. P. Headlee, and W. R. Hood

2:00 Drive shift and secondary reinforcement. M. R. D'Amato
2:15 Shock for right and wrong responses in learning and extinction with human subjects. Cecil M. Freeburne and Marvin Schneider

1:30–2:30 Intelligence. Div. 5. Coral Room, Hollenden (Percival M. Symonds, Chairman)
1:30 Personality and intellectual correlates of the aging process as measured by the Rorschach technique. Milton S. Gurvitz
1:45 The relationship between college grades and Selective Service College Qualification Tests scores for various socioeconomic groups. Douglas G. Schultz
2:00 A comparative study of the Wechsler-Bellevue Form I and the WISC. Irwin J. Knopf, Betty J. Murfett, and Victor Milstein
2:15 Changes in children's scores on Primary Mental Abilities Tests over at hree-year period. Leona E. Tyler

1:30–2:30 Social Perception. Div. 8. Otis Room, Allerton (Rex M. Collier, Chairman)
1:30 The relation of accuracy of perception of the spouse and marital happiness. Rosalind Dymond
1:45 Sensitivity to another's change of attitude as a function of one's own attitude. Daniel M. Wilner
2:00 Personalities in faces: an experiment in social perceiving. Paul F. Secord, William F. Dukes, and William Bevan
2:15 The perception of human action. Joseph Lyons

1:30–2:30 Test Development—Projective Techniques, I. Div. 12. Empire Room, Cleveland (Sol L. Garfield, Chairman)
1:30 Projective movement sequences in the study of personality. William H. Lundin
1:45 An exploratory investigation of the creativity and productivity variables on the Rorschach and Thematic Apperception Tests. Frances Rhea Racusen
2:00 Rorschach responses of elementary school children: a normative study. Nettie H. Ledwith
2:15 The relative difficulty of the Rorschach cards. Bernard Meer

1:30–2:30 Presentation of Information. Div. 19. Ohio Room, Statler (Henry A. Imus, Chairman)
1:30 The effect of alternating messages between channels in simultaneous listening. Hudson J. Bond and Judith T. Parker
1:45 The influence of "set" on the identification of visually distorted words. Richard H. Henneman, L. Starling Reid, and Eugene R. Long
2:00 Increasing display-control efficiency by altering informational coding. W. D. Garvey, W. B. Knowles, and E. P. Newlin
2:15 Perception and past experience. A mathematical model for Taylor's "range effect." Charles W. Slack

1:30–3:30 Symposium: Conceptual Trends. Div. 1. Ballroom, Allerton
Donald R. Meyer, Chairman; Mason Haire, Charles E. Osgood, and Ann Magaret

1:30–3:30 Small Discussion Group: Proposals for Research on War Prevention, Based on the Summer Workshop of the Research Exchange on the Prevention of War. Div. 8. Parlor A, Allerton (Herbert C. Kelman and John Withall, Co-Chairmen)

1:30–3:30 Symposium: The Role of Health in Determining Activities for Older People. Div. 20. Chester Room, Allerton
Robert W. Kleemeier, Chairman; Ruth Albrecht, George K. Yacorzynski, Walter D. Obrist, George I. Goodman, and Jeanne G. Gilbert

1:30–5:30 Symposium: What Do We Know about Employee Surveys? Div. 14. Ballroom, Cleveland
E. R. Henry, Chairman; Guy B. Arthur, R. B. Barmeier, W. R. G. Bender, Robert K. Burns, Robert L. Kahn, L. N. Laseau, H. H. Remmers, C. P. Sparks, and Douglas Williams

2:00–4:00 **Film Showing, IV. Miscellaneous Films. Committee on Audio-Visual Aids. Assembly B, Cleveland**

2:40–3:40 **Motivation, I. Div. 3. Pine Room, Statler** (R. A. Patton, Chairman)

2:40 Performance in instrumental learning as a joint function of drive and delay of reinforcement. Charles K. Ramond

2:55 Comparison of latency, amplitude, and activity under varying amounts of food or water deprivation. Orville A. Smith and Richard A. Behan

3:10 Somatic, psychological, and androgenic determinants in the development of sexual behavior in the male guinea pig. Walter Riss and William C. Young

3:25 Changes in the self-selection pattern for purified dietary components by rats after starvation. Howard G. Schutz and Francis J. Pilgrim

2:40–3:40 **Vision, I. Div. 3. Ohio Room, Statler** (Neil R. Bartlett, Chairman)

2:40 The effect of different preadapting luminances on the resolution of visual detail during dark adaptation. John Lott Brown

2:55 Dark adaptation and the instantaneous threshold. Robert M. Boynton and William R. Bush

3:10 Dark and light adaptation between intermediate luminance levels. Howard D. Baker and Robert G. Hattwick

3:25 Selective adaptation of components of the human electroretinogram. John C. Armington

2:40–3:40 **Content Analysis Applications. Div. 5. Coral Room, Hollenden** (Alexander G. Wesman, Chairman)

2:40 Content analysis of officer candidates' autobiographies for selection purposes. Howard L. Roy and Gabriella R. Scholnick

2:55 Evaluation of scientific research through the report. Mahlon V. Taylor, Jr. and James W. Altman

3:10 A proposed method for increasing interjudge agreement in the classification of verbal material. Seymour Rosenberg and Bernard I. Levy

3:25 An hypothesis regarding the observations required for the measurement of performance. Harry Bornstein and Barry T. Jensen

2:40–3:40 **Sociometric Studies. Div. 8. Mather Room, Allerton** (Ross Stagner, Chairman)

2:40 An application of graph theoretical concepts to the analysis of sociometric information. Robert S. Weiss

2:55 The relationship of sociometric choice patterns to visual perception thresholds. Durand F. Jacobs and David Pearl

3:10 Psychological factors in friendship choice and rejection. David Shapiro

3:25 A sociometric comparison between hospitalized groups of veterans with varying degrees of interpersonal disturbances. John J. McMillan and Jacob Silverberg

2:40–3:40 **Test Development—Projective Techniques, II. Div. 12. Empire Room, Cleveland** (Jules D. Holzberg, Chairman)

2:40 The assumption of additivity on the Szondi Test. Jacob Cohen and Louis Feigenbaum

2:55 A factor analysis of curvilinear distortions on the Bender-Gestalt. Wilson H. Guertin

3:10 The application of quantitative procedures to the scoring and validation of the Lowenfeld Mosaic Test. Harley R. Wideman

3:25 A method for the empirical study of psychodiagnosis. Albert Kostlan

2:40–4:40 **Group Discussion: Should There Be a Core Curriculum for the MA Degree? Div. 2. Assembly Room, Hollenden**

Wayne Dennis, Chairman; Charles N. Cofer, Ralph F. Berdie, and David I. Hartstein

3:50–4:50 **Motivation, II. Div. 3. Pine Room, Statler** (Cecil M. Freeburne, Chairman)

3:50 Instrumental learning based upon novel stimulation and the exploratory drive. K. C. Montgomery

4:05 Satiation of responses by rhesus monkeys to visual incentives. Robert A. Butler
4:20 An experimental analysis of the behavioral effects of a perceptual consequence unrelated to organic drive states. John B. Girdner
4:35 The relation of different levels and types of motivation to variability of behavior. Russell L. De Valois

3:50–4:50 Vision, II. Div. 3. Ohio Room, Statler (Conrad G. Mueller, Chairman)
3:50 Reaction time as a function of flash and field luminance. Shelton MacLeod and Neil R. Bartlett
4:05 Some observations on the variation of visual acuity with the orientation of the test object. Herschel Leibowitz
4:20 Intertrial association at the visual threshold as a function of intertrial interval. George H. Collier
4:35 Foveal luminosity and chromatic adaptation. Leo M. Hurvich and Dorothea Jameson

3:50–4:50 Factor Analysis. Div. 5 and Psychometric Society. Coral Room, Hollenden (William Mollenkopf, Chairman)
3:50 A factor analysis of a scale for rating psychiatric outpatients. Maurice Lorr, Eli A. Rubinstein, and Mary E. Reidy
4:05 A factor analysis of dexterity tests. Walter E. Hempel, Jr. and Edwin A. Fleishman
4:20 Evaluation of multiple criterion measures by factor analysis. George B. Simon
4:35 Multidimensional psychophysics and word association. T. G. Andrews and William S. Ray

3:50–4:50 Social Attitudes. Div. 8. Mather Room, Allerton (Stuart W. Cook, Chairman)
3:50 Tolerance of nonsegregation as a function of cultural and personal factors. Ira Iscoe and Wayne H. Holtzman
4:05 White attitudes toward Negro-white interaction in a number of community situations. Alvin E. Winder
4:20 Some factors related to the 1952 vote. Gerald Gurin
4:35 A study of the distribution of informal group roles on medium bomber crews. William W. Haythorn

3:50–4:50 Test development—intellectual measures. Div. 12. Empire Room, Cleveland (William Sloan, Chairman)
3:50 A brief, objective test for the measurement of mental impairment. Murray H. Sherman
4:05 Improvement of memory span tests. Robert G. Bernreuter
4:20 A quantitative study of the H-T-P and its relationship to the Wechsler-Bellevue Scale. Harold Rubin
4:35 A contribution to the theory of intelligence testing; with special application to children. Erika Fromm, Lenore R. Dumas, Mary L. Leimert, and Richard E. Marcus

3:50–4:50 Meeting of Incoming Executive Committee. Div. 12. Room 26, Cleveland

3:50–4:50 Age and Mental Ability. Div. 20. Chester Room, Allerton (Wilma Donahue, Chairman)
3:50 The measurement of adult intelligence and intellectual decline. James E. Birren
4:05 Physiological and psychological correlates of aging. Margaret B. Thaler and Laurence L. Frost
4:20 Differential effects of age upon intellectual functions differing in degree of genetic conditioning. W. A. Owens
4:35 A test-retest experiment on the relationship between age and mental ability. V. J. Bentz

3:50–5:50 Symposium: Experimental Applications of Statistical Learning Theories. Div. 1. Ballroom, Allerton
Cletus J. Burke, Chairman; R. R. Bush, F. Mosteller, William K. Estes, M. M. Flood, and J. C. R. Licklider

3:50–5:50 Small Discussion Group: Psychological Methods in Community Study. Div. 8. Parlor A, Allerton (S. Stansfeld Sargent, Chairman. Pre-meeting communication requested.)

5:00–6:00 **Learning. Div. 3. Pine Room, Statler** (John T. Wilson, Chairman)
5:00 Latent learning in children. Harold W. Stevenson
5:15 Utilization of an incidental cue and its bearing on discontinuity in learning. Jean Matter, Miriam Lewin, and Jerome S. Bruner
5:30 The role of response habituation in response fixation. Robert S. Feldman
5:45 The interaction of several variables in latent learning. Otello L. Desiderato

5:00–6:00 **Validity Studies. Div. 5. Coral Room, Hollenden** (Roger T. Lennon, Chairman)
5:00 The predictive effectiveness of the College Entrance Examination Board English Composition Test. Marjorie A. Olsen
5:15 The construction and validity of a test to predict success in engineering training. Wilbur L. Layton
5:30 Validity study of six spatial relations tests. Charles T. Myers
5:45 Pattern analysis illustrated in classifying patients and normals. Louis L. McQuitty

5:00–6:00 **Dial Reading. Div. 19. Ohio Room, Statler** (Walter F. Grether, Chairman)
5:00 Systematic errors in dial reading as a function of dial design and of instructions about errors. Paul Bakan and William E. Kappauf
5:15 Information transmitted as a function of repeated exposures in scale reading. Jerome Cohen and Virginia L. Senders
5:30 The peripheral viewing of dials. J. W. Senders, I. B. Webb, and Charles A. Baker
5:45 Accuracy of bisection of angular extents with knob controls as functions of direction of final movement and number of settings. R. F. Green, B. G. Andreas, and S. D. S. Spragg

6:00 **Dinner and Presidential Address. Div. 20. Otis Room, Allerton**
Nathan W. Shock. The Challenge of Psychological Research on Aging

7:30 **Reception. Div. 3. Parlors F, G, and H, Statler**

8:00 **Annual Report to the Members of the American Psychological Association. Ballroom and Assembly Room, Hollenden**
Laurance F. Shaffer, President

Carroll L. Shartle. APA Finances and the 1954 Budget
Anne Anastasi. Major Decisions of the 1953 APA Council Meetings
Fillmore H. Sanford. Annual Report of the Executive Secretary

Induction of New President

WEDNESDAY MORNING, SEPTEMBER 9

8:40–9:40 **Performance Factors, I. Div. 3. Pine Room, Statler** (Paul M. Fitts, Chairman)
8:40 The influence of early massing of practice on final level of performance of a motor skill. John M. Digman
8:55 Effect of overtraining on three conditions of transfer. George Mandler
9:10 Transfer effects in perceptual-motor performance as a function of amount of practice. B. G. Andreas, R. F. Green, and S. D. S. Spragg
9:25 Deviant responses in a manipulative task. Douglas S. Ellis and Richard B. McHugh

8:40–9:40 **Motivation and Achievement. Div. 5. Coral Room, Hollenden** (G. Frederic Kuder, Chairman)
8:40 The relation between abilities and improvement with practice in complex psychomotor performance. Edwin A. Fleishman
8:55 Student achievement as a measure of instructor effectiveness. Joseph E. Morsh, George G. Burgess, and Paul N. Smith

9:10 The motivational effect of an ascending grading scale. Wolcott C. Treat
9:25 Three approaches to peer evaluation. Marilyn K. Rigby, E. Lee Hoffman, John H. Rohrer, and Walter L. Wilkins

8:40–9:40 Predictors of Success in Training, I. Div. 19. Ohio Room, Statler (Lloyd G. Humphreys, Chairman)
8:40 A personality inventory for induction screening. Jerry H. Clark and Jack R. Danielson
8:55 Improvement in validity of an Army personality inventory by means of a suppressor key. Walter A. Klieger and Lindsey R. Harmon
9:10 Relationship of attitudes to success in radio operator training. Richard W. Highland
9:25 A study of personality requirements for survival by the use of a "biographical inventory." Mario Levi and Donald E. Super

8:40–10:40 Symposium: Factors in Depth Perception: Theory and Applications. Div. 1. Chester Room, Allerton
Alberta S. Gilinsky, Chairman; H. Sidney Newcomer, James J. Gibson, Albert H. Hastorf, and Conrad G. Mueller

8:40–10:40 Symposium: Training Psychologists for Industry. Div. 14. Ballroom, Cleveland
Donald L. Grant, Chairman; Elmer R. John, Harry E. Loveless, and Jarold R. Niven

9:00–12:00 Film Showings, III. Experimental-Physiological. Committee on Audio-Visual Aids. Assembly B, Cleveland (For titles see Film Showings on Monday morning.)

9:50–10:50 Performance Factors, II. Div. 3. Pine Room, Statler (S. D. S. Spragg, Chairman)
9:50 The effect of motor task redundancy and level of practice upon interference between two tasks. M. E. Noble and H. P. Bahrick
10:05 Spatial-verbal coding in perceptual-motor skills. W. B. Knowles, W. D. Garvey, and E. P. Newlin
10:20 An observation of steady-state behavior in a perceptual-motor task. Charles L. Hamilton, R. A. Patton, and Frank Pierce
10:35 Visual-motor performance as a function of short-duration ambient temperature. Warren H. Teichner and Robert F. Wehrkamp

9:50–10:50 Statistical Developments. Div. 5 and Psychometric Society. Coral Room, Hollenden (Harry H. Harman, Chairman)
9:50 A simple procedure for accurately estimating the equivalence reliability of a test. Robert L. Ebel
10:05 A reliability coefficient for paired comparisons. Harold Gulliksen
10:20 The mathematical basis of reciprocal averages. Cyril J. Hoyt and Raymond O. Collier, Jr.
10:35 The standard errors of various test statistics when the test items are sampled. Frederic M. Lord

9:50–10:50 Predictors of Success in Training, II. Div. 19. Ohio Room, Statler (Karl D. Kryter, Chairman)
9:50 Student qualifications and performance at The Adjutant General's School, 1 July 1952–30 June 1953. John E. Robinson, Jr.
10:05 Current validities of the Navy Basic Test Battery. Abraham S. Levine and Frank A. Gross
10:20 Analysis of the Navy's Relative Movement Test by means of a factorial approach. Charles M. Lucas
10:35 Illiterates in the Navy in World War II. Robert L. Thorndike and Elizabeth P. Hagen

9:50–11:50 Symposium: Personality and Old Age: Evaluation of Some Research. Div. 20. Otis Room, Allerton
Robert I. Watson, Chairman; Bettye McDonald Caldwell, Margaret Ives, and Evelyn P. Mason

11:00–12:00 **Brain Function. Div. 3. Pine Room, Statler** (Eliot Stellar, Chairman)

11:00 The effect of bilateral amygdaloidectomy upon the acquisition and retention of a conditioned avoidance response in cats. Joseph V. Brady, Leon Schreiner, Irving Geller, and Arthur Kling

11:15 Behavioral changes associated with ablation of the amygdala. Lawrence Weiskrantz

11:30 The effect on the behavior of monkeys of electrically stimulating or destroying small areas within the frontal lobes. H. Enger Rosvold and José M. R. Delgado

11:45 Analysis of the effects of frontal lobe damage in monkeys: I. Variations of delayed response. Mortimer Mishkin and Karl H. Pribram

11:00–12:00 **Factor Analysis Methods. Div. 5 and Psychometric Society. Coral Room, Hollenden** (Bert F. Green, Jr., Chairman)

11:00 An objective determination of simple structure in factor analysis. Ledyard R Tucker

11:15 The estimation of communalities in factor analysis by an iterative procedure. Charles Wrigley

11:30 The square-root method and multiple-group methods of factor analysis. Harry H. Harman

11:45 Nonlinear discriminating functions—an optimal solution to some problems of psychodiagnosis. Ardie Lubin

11:00–12:00 **Studies in Training. Div. 19. Ohio Room, Statler** (Meredith P. Crawford, Chairman)

11:00 The use of expert judgments in the development of flight simulator training courses. Edward R. Jones and Philip H. DuBois

11:15 An investigation of the interacting effects of repetition and audience participation on learning from training films. Tracy S. Kendler, John Oliver Cook, and Howard H. Kendler

11:30 The effect of style difficulty on reader comprehension and acceptability of technical training material. G. R. Klare, L. M. Gustafson, and J. E. Mabry

11:45 Near-accident reports in aviation: their collection and analysis. Robert Fitzpatrick and James N. Vasilas

11:00–1:00 **Symposium: Program Research in Psychology Today. Div. 1. Ballroom, Allerton**
Harry F. Harlow, Chairman; Arthur W. Melton, Meredith P. Crawford, Boyd McCandless, and Paul M. Fitts

WEDNESDAY AFTERNOON AND EVENING, SEPTEMBER 9

1:30–2:30 **Information Theory, I. Div. 3. Pine Room, Statler** (Wendell R. Garner, Chairman)

1:30 Two sources of transmitted information in sequences of auditory judgments. William J. McGill

1:45 Effect of the number of permissible response categories on the learning of a constant number of visual stimuli. Harold W. Hake and Charles W. Eriksen

2:00 Information, repetition, and reinforcement as determiners of two-alternative decisions. Ward Edwards

2:15 Visual noise filtering by human operators. Irwin Pollack

1:30–2:30 **Perception. Div. 3. Ohio Room, Statler** (Edwin B. Newman, Chairman)

1:30 Labeling as a factor in visual differentiation and generalization. John S. Robinson

1:45 Configurational constancy: the differential effects of training in visual imagery and verbal analysis. Clifford Blades, Daniel E. Sheer, and Philip Worchel

2:00 Directionality of sounds having large interaural time differences. Hugh C. Blodgett, Lloyd A. Jeffress, and Bruce H. Deatherage

2:15 Findings on the differential resistance to noise of French, Spanish, and English. Ezra V. Saul and Stanley M. Sapon

1:30–2:30 **Industrial Applications. Div. 5. Coral Room, Hollenden** (John C. Flanagan, Chairman)

1:30 The interrelationships among measures of morale, temperament, and other factors in an industrial population. Philip Ash

1:45 A civilian supervisory selection battery for the Air Force. Joseph G. Colmen

2:00 An analysis of some determinants of non-scale types. Seymour Lieberman
2:15 A sign test of validity. Laurence Kashdan

1:30–2:30 Symposium: Selection of Personnel for Hazardous Duties. Div. 19. Ballroom, Statler
Saul B. Sells, Chairman; Richard H. Gaylord, Gerald J. Duffner, Joseph F. Snyder, Walter L. Wilkins, John R. Barry, and John T. Bair

1:30–2:45 Age and Attitude. Div. 20. Otis Room, Allerton (Sidney L. Pressey, Chairman)
1:30 When does old age begin and a worker become old? Jacob Tuckman and Irving Lorge
1:45 Age and ratings of supervisory and technical personnel in a chemical company. Howard Maher
2:00 Schizophrenics rank the "best years of life." Herman Feifel
2:15 The psychology of the aging in recent fiction. Albert R. Chandler
2:30 The ages of past presidents of professional organizations. Harvey C. Lehman

2:40–3:25 Information Theory, II. Div. 3. Pine Room, Statler (William J. McGill, Chairman)
2:40 Random-number guessing behavior. Alphonse Chapanis
2:55 Discriminating between the frequency of occurrence of two stimuli. John P. Hornseth
3:10 Learning as a function of sequential dependencies. W. F. Bennett, P. M. Fitts, and M. E. Noble

2:40–3:40 Sensory. Div. 3. Ohio Room, Statler (Frank A. Geldard, Chairman)
2:40 Red-green discrimination in the dog. Richard T. Zegers and Eugene J. Milano
2:55 The preference for saccharin. C. Pfaffmann and E. M. Brown
3:10 Taste effects resulting from intermittent electrical stimulation of the tongue. Rosemary Pierrel
3:25 An investigation into the mel scale of pitch. Ellis B. Hartman

2:40–3:40 Test Construction. Div. 5. Coral Room, Hollenden (Frederick B. Davis, Chairman)
2:40 Developing a shorter and more useful pre-engineering test. A. Pemberton Johnson, William H. Angoff, and Bernard S. Cayne
2:55 Are abbreviated Rorschach records useful? Judith Levine and Helen H. Davidson
3:10 Middle category ("?") response: reliability and relationship to personality and intelligence variables. Nathan Rosenberg, Carroll E. Izard, and E. P. Hollander
3:25 Item reliability as a function of the omission of misleads. Wayne S. Zimmerman and Lloyd G. Humphreys

2:50–3:50 Age and Adjustment. Div. 20. Otis Room, Allerton (Bettye McDonald Caldwell, Chairman)
2:50 Proverbs as a measure of strength of opinion: the relationship between strength of opinion and adjustment. George T. Fitzelle
3:05 An investigation of the role of self-concept in the physical rehabilitation of the aged. Herbert Fensterheim and Joseph B. Lakritz
3:20 1923–53 and age-youth comparison with the "X-O" Tests. Allan W. Jones
3:35 A comparison of the psychological maturity of institutionalized and noninstitutionalized male senescents. Sherman L. Whalley

3:50–4:50 Visual Perception, I. Div. 3. Pine Room, Statler (Harold W. Hake, Chairman)
3:50 The relationship between lateral phoria and some tests of real and apparent depth perception. Norman Willard, Jr., Howard C. Olson, and Robert D. Arnold
4:05 Interpolation accuracy as a function of visual angle between scale marks. Charles A. Baker
4:20 Constant errors in interpolation between scale marks. M. Carr Payne, Jr.
4:35 The effect of training on absolute estimation of distance over the ground. Eleanor J. Gibson

3:50–4:50 Personality Measurement. Div. 5. Coral Room, Hollenden (Herbert S. Conrad, Chairman)
3:50 The development of a behavioral measure of the tendency to overstate one's knowledge. Henry N. Ricciuti

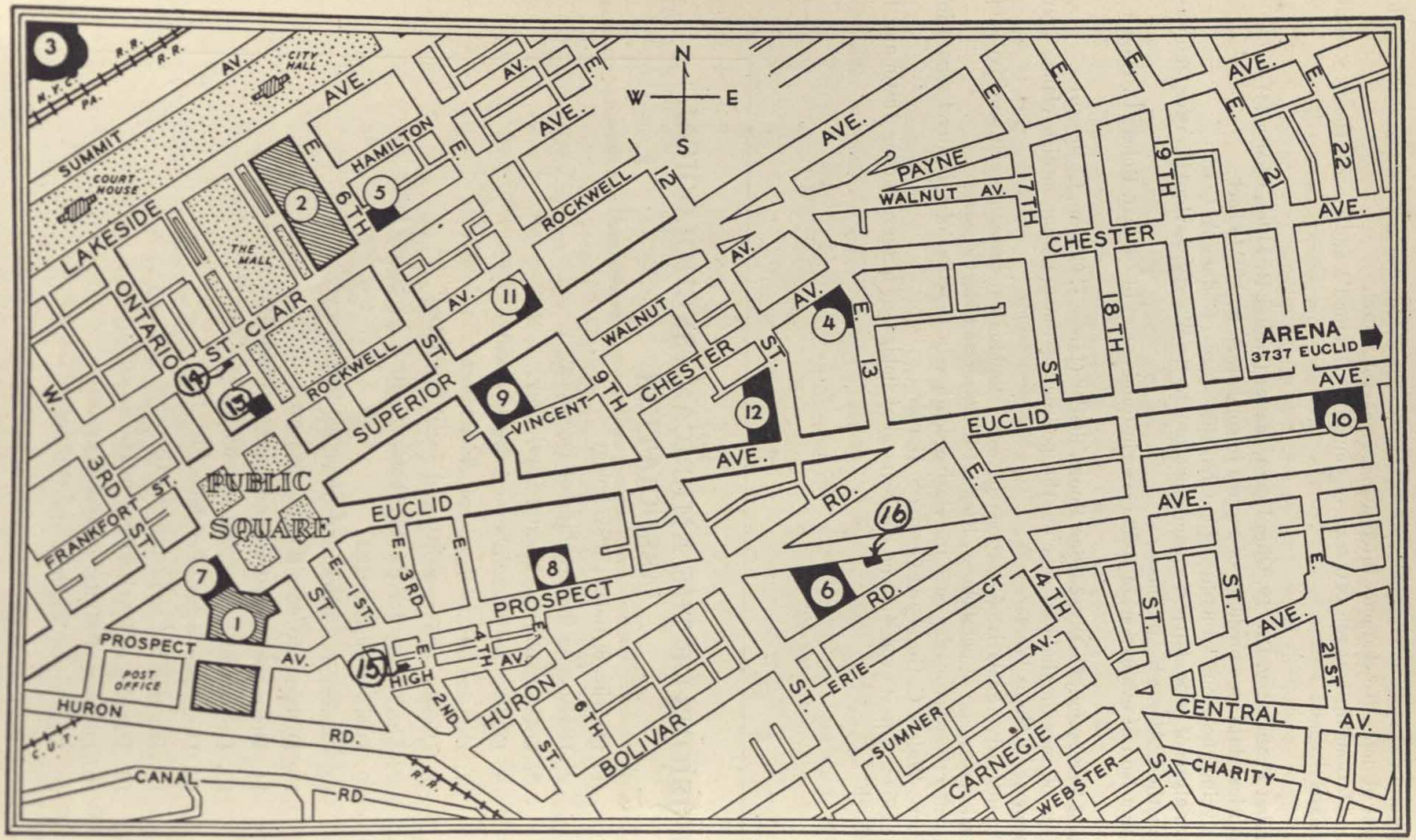
4:05 Prediction of objective test behavior by means of the group Rorschach. David R. Krathwohl
4:20 A test of defensive character integration. Irenaes A. Burch
4:35 The relationship between two tests of empathy: Dymond's and Kerr's. Harry S. Hall and Graham B. Bell

3:50–4:50 Combat Proficiency. Div. 19. Ohio Room, Statler (Walter R. Miles, Chairman)
3:50 Historical data as a predictor of success in combat. A. E. McMichael
4:05 Analyzing the group structures of combat rifle squads. Rodney A. Clark
4:20 An analysis of some ship performance measures by the Wherry-Gaylord iterative factor analysis method. Albert S. Glickman
4:35 Comparison of evaluations of B-29 crews in training and in combat. Robert D. Dugan

5:00–6:00 Visual Perception, II. Div. 3. Pine Room, Statler (James J. Gibson, Chairman)
5:00 Effect of meaning-induced sets on the position of the apparent median plane. Seymour Wapner and Heinz Werner
5:15 A quantitative analysis of relations between stimulus determinants and sensitivity of the visual perception of parallelness. Richard L. Sulzer and Karl Zener
5:30 The effectiveness of size cues to relative depth as a function of the lateral separation of objects. Walter C. Gogel and George S. Harker
5:45 The effect of past experience on the reversal of ambiguous figures. Pauline Austin and Hans Wallach

DIVISIONS OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

1. Division of General Psychology
2. Division on the Teaching of Psychology
3. Division of Experimental Psychology
5. Division on Evaluation and Measurement
7. Division on Childhood and Adolescence
8. Division of Personality and Social Psychology
9. The Society for the Psychological Study of Social Issues
10. Division on Esthetics
12. Division of Clinical and Abnormal Psychology
13. Division of Consulting Psychology
14. Division of Industrial and Business Psychology
15. Division of Educational Psychology
16. Division of School Psychologists
17. Division of Counseling and Guidance
18. Division of Psychologists in Public Service
19. Division of Military Psychology
20. Division on Maturity and Old Age



Map of Downtown Cleveland

1. Union Station—Terminal Tower
2. Public Auditorium
3. Stadium
4. Allerton Hotel
5. Auditorium Hotel
6. Carter Hotel
7. Cleveland Hotel
8. Colonial Hotel
9. Hollenden Hotel
10. New Amsterdam Hotel
11. Olmsted Hotel
12. Statler Hotel
13. Cleveland College
14, 15, 16. Beverage Stores

DIRECTORY OF EXHIBITS

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   381 Fourth Avenue
   New York 16, New York
   (Medical and scientific publications)

2. The Dryden Press, Inc.
   31 West 54th Street
   New York 19, N. Y.
   (College textbooks)

3. The Macmillan Company
   60 Fifth Avenue
   New York 11, New York
   (Books)

4. McGraw-Hill Book Company, Inc.
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   New York 36, New York
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   314 Superior Avenue
   Cleveland 14, Ohio
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    (Books)

13. American Book Company
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    New York 3, New York
    (Books)

14 & 15. Science Research Associates
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    Chicago 10, Illinois
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    (Technical and scientific books)

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    (Books)

19. Association Conventions Exhibits
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    (Combined book exhibit)

20. Prentice-Hall, Inc.
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    New York 11, New York
    (College and secondary texts)

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    New York 17, N. Y.
    (College and school textbooks)

22. Houghton-Mifflin Company
    Boston, Chicago, Dallas,
    New York, San Francisco
    (Textbooks and instructional materials)

23. C. H. Stoelting Company
    424 N. Homan Avenue
    Chicago, Illinois
    (Tests and equipment)

24. World Book Company
    Yonkers-on-Hudson, New York
    (Books and tests)

25. California Test Bureau
    5916 Hollywood Boulevard
    Los Angeles 28, California
    (Standardized diagnostic tests)

26. Keystone View Company
    Meadville, Pennsylvania
    (Visual equipment)

COMMITTEES FOR THE 1953 ANNUAL MEETING

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LISTING OF PROSPECTIVE FELLOWS

The APA Board of Directors wishes to call attention to the procedure in connection with the nomination and election of Fellows of the Association to be voted upon at the September 1953 meeting.

At the Cleveland meeting, the names of all persons currently under consideration for election to Fellowship status and their sponsors will be posted near the Information Desk. Members of the Association having any question or comments concerning the qualifications of such persons are invited to speak to the Board members informally or to address the Board in writing (c/o APA Central Office, Room 5, Hotel Cleveland). Such communications should be received not later than 5 P.M., Sunday, September 6.

This provision is offered as an opportunity to raise questions about candidates prior to Council meetings.

The procedure for election of Fellows is now as follows: Upon recommendation of divisions or division membership committees, applicants are reviewed by the Board of Directors and, when deemed fully qualified, are nominated to the Council of Representatives for election.

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Applicants must have their applications complete by August 1. New Associates are elected in the fall and their membership is dated as of the next year. Journals due Associates begin with the January issues; they receive the *American Psychologist*, the *Psychological Abstracts*, the *Psychological Bulletin*, and the *Directory*.

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Properly qualified Associate members may, upon nomination by one of the Divisions and election by the Council of Representatives, become *Fellows* of the American Psychological Association. Fellows must previously have been Associates. They must have a doctor's degree and at least five years of acceptable professional experience beyond that degree. They must be primarily engaged in the advancement of psychology as a science and a profession.

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Life Membership is open to members who have reached the age of 65 and who have been members for twenty years. They are exempt from dues, and receive the *American Psychologist* and the *Directory*.

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American Psychological Association
61st Annual Convention

Cleveland, Ohio, September 4–9, 1953

The hotels listed below have agreed to furnish room block reservations for the APA Convention. These are the only hotels which have agreed to reserve space for APA members. The range of prices for each type of accommodation is shown. Few rooms are available at the lowest prices.

We are able to assure only rooms for double or multiple occupancy. Please determine in advance those who will share accommodations. Only a limited number of single rooms are available.

Division 3 (Division of Experimental Psychology) has expressed an interest in being housed in the Statler Hotel. Members who wish to stay in this hotel should mark the Statler as their first choice, and send in their requests for accommodations as soon as possible.

The hotel reservation application given below is intended for use by persons attending the APA Convention. The APA Housing Bureau is unable to assume responsibility for those who will be attending meetings of other groups being held at the same time as the APA Convention.

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61st Annual Convention
Cleveland, Ohio, September 4–9, 1953

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(Name of affiliation or institution to appear on badge) .....

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* Non-members must pay a registration fee of $2.50. This fee is waived for Foreign Affiliates and members of the Student Journal Group.

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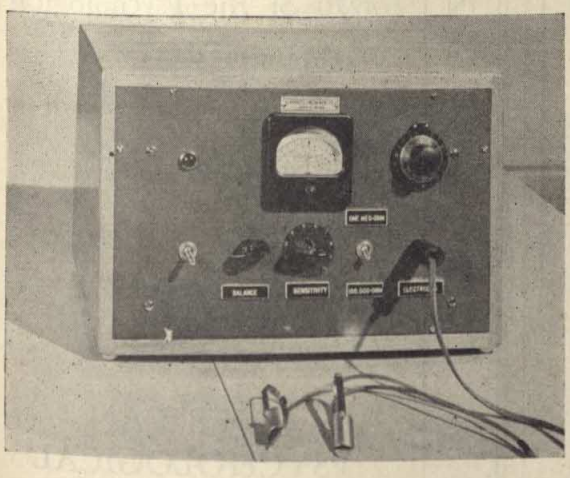
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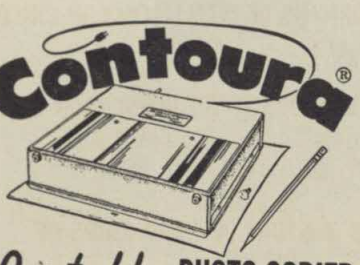
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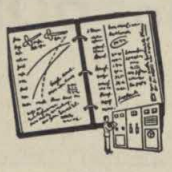
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Social Psychology

by EUGENE L. HARTLEY *and* RUTH E. HARTLEY

I shall adopt it for Fall. This looks like the best bet yet. I particularly like the easy flowing style, the excellent coverage of sources, the much needed emphasis on communication, and the absence of overlap with other courses in the department. The good organization of topics shows better digestion of material than most have achieved.

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The Professional Journal of the American Psychological Association, Inc.

Volume 8 August, 1953 Number 8

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PROGRAM OF THE SIXTY-FIRST ANNUAL CONVENTION OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

ABSTRACTS OF PAPERS[1]

Aikman, Louis, Lorge, Irving, Tuckman, Jacob, Spiegel, Joseph, & Moss, Gilda. (*Teachers College, Columbia University*) **Differences in the quality of the solution to a practical field problem at various degrees of remoteness from reality.** (Sponsor, Irving Lorge)

SUBJECTS: 240 Air Science I and II cadets of the Reserve Officer Training Corps, Columbia College, Columbia University.

PROCEDURE: The field problem was adapted from one developed by the Office of Strategic Services during World War II. It requires the formulation of a plan for getting a group of five men across a wide road mined with supersensitive mines. The wooded area has scattered about such materials as beams, pieces of lumber, ropes, sticks, a tire, a pulley, a hammer, and other debris.

The problem was presented at four levels of remoteness from reality, (*a*) verbal description, (*b*) photographic representation, (*c*) miniature scale model but not allowing manipulation of parts and materials, and (*d*) miniature scale model allowing manipulation of parts and materials. At each of the four levels, 10 individuals and 10 groups of five were asked to solve the problem and write the solution in full detail. Individuals and groups were free to plan to use any of the materials in their written solutions. The written solutions were then content analyzed and on that basis a quality point score was developed.

RESULTS: Using analysis of variance there are no significant differences among levels of presentation, but there is a very significant difference between solutions written by groups as groups and by individuals as individuals.

CONCLUSIONS: The degree of remoteness from reality has little or no effect on the quality of written solutions whether by individuals or by groups, but there is a remarkable difference between individuals and groups. (Slides)

[1] The abstracts are arranged alphabetically according to authors' names. For all details concerning time and place of meetings and presentation of papers, see the July *American Psychologist*.

Ainsworth, Patricia *see* Norman, Ralph D.

Allison, Roger B., Jr. (*Educational Testing Service*) **Comparison of reading comprehension items and verbal items from the Scholastic Aptitude Test.**

PROBLEM: As part of a large study supported by the College Entrance Examination Board designed to investigate the relative effectiveness of various Scholastic Aptitude Test item types, the present study provides a comparison of reading comprehension items and verbal items across four groups of subjects.

PROCEDURES: A form of the SAT was administered in 1947 to liberal arts students in two Western universities. By dividing the *S*s by school and sex, four groups were formed. The size of the groups ranged from 340 to 610. Item-difficulty values and three item-criterion biserial correlations were obtained for all items. The three criteria involved were: (*a*) total score on SAT-Verbal; (*b*) total score on SAT-Mathematics; and (*c*) first-term or first-year college average grades. After excluding items with extreme difficulty values as well as items with less than 75% "attempts," 25 reading comprehension items and 51 verbal items were available for comparison.

RESULTS: A two-way classification was imposed on the 76 items—the items being classified as verbal or reading comprehension and as above or below a critical value, which was chosen to coincide with the median item-criterion biserial correlation, or item difficulty, of the reading comprehension items for a given group. Tests of independence of classification were made for the three item-criterion correlations and the item difficulties for each group of subjects. The resulting confidence levels were based upon an exact treatment of 2×2 contingency tables, and provided a basis for judging whether verbal items had higher item-criterion biserial correlations, or item difficulties, than reading comprehension items. In addition, P_{90}, P_{50}, and P_{10} are reported for the two item types.

CONCLUSION: The interpretations and limitations of the analyses with respect to the relative effectiveness of these two item types will be discussed.

Allport, Floyd H. *see* Lepkin, Milton

Altman, James W. *see* Taylor, Mahlon V.

Anderson, Gladys L., & Anderson, Harold H. (*Michigan State College*) **Anxiety thema of German adolescents in parent-child conflict.**

Numbers of studies and clinical reports have consistently revealed a highly *authoritarian* cultural relationship between parents and children in Germany. In connection with a study of German children's perception of social conflict situations, opportunity was taken to gather data on anxiety thema expressed before and after the "crisis" in parent-child conflict situations.

Subjects were 1,200 boys and girls aged 13 years, representing a cross section of a German city of 200,000 population.

A Story Completion Form was prepared consisting of six incomplete stories of conflict situations common to the experience of most children: two each, stating conflict between child and parent, child and teacher, and child and child. In the conflicts between the child and parent, reported here, the child has made a mistake. The Forms were administered to entire seventh grade classes. The children's stories have been translated into English and coded for thema and for outcome of conflict.

Anxiety feelings and emotion were expressed by children in: stutters, stammers, other speech difficulties, red face, shame, sad, pounding heart, sobs, cries, afraid, bewildered, restless, bad conscience, contrition, and regret. Outcome of stories has been classified according to previous American research into four levels related to increasing degrees of dominative or authoritarian relationships: A. Problem-solving; B. Resistance, hostility; C. Balance-of-Power (indecisive); D. Submission.

Children showed very low frequencies of problem-solving outcome of social conflict and negligible frequencies of outcome of resistance, hostility to authority. Both boys and girls who expressed anxiety thema had outcomes of conflict predominantly at the submission level. Boys outnumbered girls two-to-one in expressing anxiety before "facing" the situation; girls outnumbered boys two-to-one in expressing anxiety afterward. (Slides)

Anderson, Harold H. *see* Anderson, Gladys L.

Andreas, B. G. *see* Green, R. F.

Andreas, B. G., Green, R. F., & Spragg, S. D. S. (*University of Rochester*) **Transfer effects in perceptual-motor performance as a function of amount of practice.**

PROBLEM: To study transfer effects resulting from varying amounts of practice on a perceptual-motor task to the same task with stimulus-response relationships reversed.

SUBJECTS: 300 military men.

PROCEDURE: Five groups of 30 men were given 1, 2, 4, 8, or 17 trials on a perceptual-motor task, tracking on a modified two-hand coordination test. The relationships between the directions of rotation of the handwheels and movement of the target follower were then reversed and additional trials given. Performance on this reversed task was compared with that of a control group.

To extend the generality of the findings, five groups were similarly run on a compensatory tracking task, a modified two-hand pursuit test.

RESULTS: For both tracking tasks a similar pattern of transfer effects was found on the first trial of the reversed task. After moderate amounts of practice on a standard task, a positive transfer effect was found, although it did not persist. After 1 trial or after 17 trials on the standard task, a negative transfer effect appeared.

CONCLUSIONS: When a standard perceptual-motor task is changed by reversing stimulus-response relationships, the initial transfer effects appear to be a curvilinear function of the amount of prior training, negative for minimal prior training, becoming positive and then negative again as a function of practice on the initial task. The function may possibly be accounted for in terms of differential acquisition rates during practice of (*a*) general familiarity with the task and (*b*) specific habits of response based on the stimulus-response relationships first encountered.

This study was carried out under contract with Special Devices Center, Office of Naval Research. (Slides)

Andrews, T. G., & Ray, William S. (*University of Maryland and Pennsylvania State College*) **Multidimensional psychophysics and word association.**

This study is a continuation and validation of a previously reported new method of multidimensional analysis of stimulus materials. Intercorrelations of ratings of affectivity by 400 college students for 32 English words were carried to simple structure. Twenty of the stimulus words were chosen that were well differentiated factorially. These 20 words were presented to 120 college students in a controlled manner designed to obtain relative associations or "psychological distances" within all the pairs, but not by specifying any attributes for association or comparison. A matrix was generated of the proportions of times that each pair of stimuli was associated. The proportion matrix was transformed into a matrix in which the entries were estimates of correlation coefficients. This R matrix was then factored and ro-

tated to simple structure. Six factors resulted, the first four of which were easily interpretable and appear to be of the following natures: high affectivity (only), low affectivity (only), stimuli of an action nature with auditory components, and words having to do with social relations. The validation of the new method is described, giving evidence of its wider application in experimental psychology and especially in the field of perception. Comparisons are also made with other methods of multidimensional psychophysical analysis. (Slides)

Angoff, William H. *see* Johnson, A. Pemberton, and Schultz, Margaret K.

Armington, John C. (*Army Medical Service Graduate School, Washington, D. C.*) **Selective adaptation of components of the human electroretinogram.**

PROBLEM: The electrical response of the human eye consists of both a photopic (*X* wave) and a scotopic (*B* wave) component. Under certain experimental conditions, both responses are distinct, but when the eyes are partially light adapted the *X* and *B* waves merge. Under this condition the two responses cannot be distinguished from inspection of records alone. The present experiments represent an attempt to selectively reduce the contribution made by one or the other of these components through the use of colored adaptation lights.

SUBJECTS: 3 human *S*s with normal vision were used.

PROCEDURE: Potentials were taken from the eye with an electrode mounted in a contact lens and were recorded with a Grass amplification system. Adaptation and test stimuli were produced with a dual optical system. While recording, either a red or a blue adaptation light was exposed continuously. Test flashes of 0.01-sec. duration were superimposed upon the adaptation light. Intensity and spectral composition were controlled with neutral density and interference filters.

During an experimental session, the *S*s were first dark adapted and later light adapted. Then test flashes of various wave lengths were administered at 1-min. intervals. After measurement of the records, plots relating height of response and stimulus intensity were made for each color of test and adaptation stimulus. Finally, determinations of relative spectral sensitivity were made.

RESULTS: The intensity plots exhibit greatest slope with test flashes of short wave length. Relative spectral-sensitivity data show that with red adaptation, long wave-length sensitivity is depressed while with blue adaptation, short wave-length stimuli become less effective. The results show quite clearly that *X* and *B* wave sensitivity may be selectively reduced through the use of suitable adaptation lights. (Slides)

Arnold, Robert D. *see* Willard, Norman, Jr.

Ash, Philip. (*Inland Steel Company*) **The interrelationships among measures of morale, temperament, and other factors in an industrial population.**

PROBLEM: To determine the extent to which employee attitudes with respect to morale measures are correlated with intrapersonal factors including measures of temperament, intelligence, age, education, and length of work experience.

SUBJECTS: 167 production and office workers in a steel products fabricating plant.

PROCEDURE: In 1½-hr. meetings all employees were given the SRA Employee Inventory, a short-form job satisfaction questionnaire, the Thurstone Temperament Schedule, the Wonderlic Personnel Test, and a brief biographical data sheet. The means, variances, and intercorrelation matrix for the fifteen subscales and total score of the SRA Inventory, the job satisfaction score, the seven scales of the Thurstone Temperament Schedule, the Wonderlic score, and age, length of experience, and amount of education were computed.

RESULTS AND CONCLUSIONS: Age, education, experience, and intelligence as measured by the Wonderlic were essentially independent of both the morale and the temperament measures. The clusters of temperament and morale measures found will be described and discussed.

Atkinson, John W., Heyns, Roger W., & Veroff, Joseph. (*University of Michigan*) **Effect of experimental arousal of the affiliation motive on thematic apperception.** (Sponsor, John W. Atkinson)

The purpose of this study was to develop a method of scoring thematic apperception stories to measure strength of motivation for social acceptance, or n Affiliation.

Imaginative stories were written in response to pictures by two groups of male college students under two experimental conditions designed to differ in the degree to which motivation to be accepted and liked by others would be aroused. The presumed high motivation condition consisted of a sociometric procedure conducted in a fraternity dining room before stories were written. The low motivation control condition was a college classroom in which a short achievement-related task preceded the writing of stories.

The differences in the imaginative content of the two sets of stories were defined and are presented as a scoring system for obtaining measures of individual differences in n Affiliation. Behavioral sequences dealing with attempts to establish, maintain, or restore positive affective relationships with other persons

occurred more frequently in the imaginative stories of the group in whom n Affiliation had been aroused.

The differences between the scoring definitions proposed here and a more restricted set growing out of a similar experiment by Shipley and Veroff are reconciled in terms of an analysis of differences between the pictures and low motivation control conditions in the two experiments.

The affiliation motive is a positive disposition to be accepted and liked by others (an approach tendency). The *S*s high in n Affiliation were more frequently rated by their associates as approval-seeking, self-assertive and confident, and egotistical than *S*s low in n Affiliation. They were assigned traits indicating that they were considered less likable than *S*s low in n Affiliation suggesting that n Affiliation may be historically related to oral dependency. (Slides)

Auble, Donavon *see* Mech, Edmond

Austin, George A. *see* Bruner, Jerome S.

Austin, George A., Bruner, Jerome S., & Seymour, Robert V. (*Harvard University*) **Fixed-choice strategies in concept attainment.**

PROBLEM: To test the effect on concept attainment of number of attributes defining a concept, number of nondefining attributes, and positive or negative nature of instances presented.

SUBJECTS: 30 undergraduates.

PROCEDURE: Cards were presented sequentially, each containing one of three possible values of four attributes (color, form, number, border). Concepts of one, two, or three defining attributes were used (e.g., a two-attribute concept would be "red squares") along with different numbers of nondefining attributes. *S*s were only told of each card whether it was correct and asked to guess the concept. Maximally and minimally positive series were given, *S*s having nine concepts to attain in all.

RESULTS: (*a*) For constant number of defining attributes (one or two), increase in total attributes from three to four does not increase failures to attain. (*b*) For constant number of total attributes (three or four), increase in defining attributes from one to two increases failures, but increase from two to three (given four total attributes) does not. Part of these effects may be due to length of card sequence.

Four strategies can be followed: (*a*) retain an extant hypothesis when presented a positive, hypothesis-confirming instance, (*b*) when presented a positive, hypothesis-disconfirming instance, change the hypothesis to those attribute values common to the present instance and the preceding correct instance, (*c*) retain an extant hypothesis when presented a negative instance that confirms the hypothesis, (*d*) change a hypothesis *completely* when presented a negative instance that disconfirms it. Solvers significantly more than nonsolvers tended to follow rule (*c*), the other rules generally being followed by all *S*s.

CONCLUSIONS: Limitations of human memory for past instances requires a strategy for utilizing information in order to minimize memory interference. The information theory recently applied by Hovland fails to consider this limitation. The strategy analysis employed applies not only to concept attainment but to problem solving generally.

Austin, Pauline, & Wallach, Hans. (*Swarthmore College*) **The effect of past experience on the reversal of ambiguous figures.** (Sponsor, Hans Wallach)

PROBLEM: When an *S* looks steadily at a reversible figure and reports each change as it occurs, the time that elapses before the first reversal is considerably longer than the time between subsequent reversals. This difference may be important for the understanding of the reversal process. The second and all following reversals are distinguished from the first reversal by the fact that both perceptual versions of the figure have already been perceived when the later reversals take place. Experiments were done to show that this factor is responsible for the difference between the first and subsequent reversal times.

PROCEDURE: Brief exposure of a number of different figures preceded the presentation of the reversible figure. Among these figures was one which resembled the unfavored version of the reversible figure. This gave *S*s a prior perception of one of the versions, say version B. Where observation of the reversible figure began with version A, the first reversal by which the figure changed to version B now involved a change to a familiar rather than a novel form.

RESULTS: This procedure shortened the first reversal time for two reversible figures compared with that obtained from a control experiment that was identical except that the similar figure was omitted. For a Rubin figure such a "plant" reduced the first reversal time 70% (37 *S*s); and for a Necker cube by 45% (40 *S*s). Both differences are significant at better than the .01 level.

CONCLUSIONS: The capacity of a "plant" to shorten the first reversal time demonstrates an influence of memory on the reversal process and suggests the hypothesis that a reversal occurs when the influence of the trace of one version on the perceptual process is superseded by the influence of the trace of the other version. (Slides)

Ausubel, David P. (*University of Illinois*) **"Real-life" measures of level of academic and vocational aspiration in adolescents: relation to laboratory measures and to adjustment.**

Since academic and vocational aspirations constitute a significant aspect of adolescent goal structure and adjustment, an attempt was made to devise direct, "real-life" measures of these variables that would be comparable to laboratory measures of level of aspiration, to ascertain the relationship between "real-life" and laboratory measures, and to relate the former measures to adjustment level. Subjects were 50 junior students in a university high school.

Measures of academic aspiration included (*a*) "academic goal discrepancy"—the discrepancy between future academic aspirations and past grade point average, and (*b*) "academic performance estimate"—the discrepancy between past grade point average (unknown to *S*s) and estimate of same. The measures of vocational aspiration included (*a*) "vocational unreality"—total discrepancy between *S*'s Kuder Preference subscale scores and corresponding mean scores of persons in his occupation of choice; (*b*) "vocational tenacity"—relative tendency to retain original vocational aspirations in the face of failure in three hypothetical situations; and (*c*) "vocational prestige needs"—relative tendency to choose prestigeful occupations in preference to others in the same activity area.

The laboratory measures of aspirational level included goal discrepancy and "goal tenacity" (attainment discrepancy minus performance discrepancy) scores on paper-and-pencil and stylus maze material, and "initial performance estimate" (tendency to over- or underestimate initial performance).

Academic goal discrepancy was highly related to academic performance estimate, and vocational unreality was highly related to vocational tenacity. "Real-life" and laboratory measures of aspirational level were in general negligibly and irregularly related. High academic goal discrepancy scores and overestimates of academic performance were associated with poor personality adjustment, high anxiety, and low sociometric status. Numerous sex differences were found.

Baggaley, Andrew R., & Cattell, Raymond B. (*University of Illinois*) **Invention and validation of objective motivation measures.**

PROBLEM: The measurement of motivation and attitudes by other than self-assessment questionnaires is still in its infancy. A few previous researches in this area will be discussed and evaluated. The present study built on these and employed some newer devices. The ergic theory of attitude measurement was employed in test construction.

SUBJECTS AND PROCEDURE: Two batteries of some 12 objective test devices each were administered to groups of about 50 Air Force O.C.S. candidates. The devices simultaneously tested four different attitudes: toward (*a*) flying, (*b*) a career in the Air Force, (*c*) drinking and smoking, and (*d*) movie attendance. The tests were constructed on the attitude definition which formulates the activity involved in the attitude in relation to an object.

RESULTS: The most reliable tests, according to the corrected split-half method, were Sentences Coming into Focus, Preference, Visual Distraction, and Misbelief-Autism. Significant interindividual differences in *level* of performance on the Sentences Coming into Focus, Visual Distraction, and Spelling of Technical Terms tests indicated the desirability of ipsative scoring. Internal validity was estimated by averaging phi coefficient intercorrelations (by means of Fisher's *z* transformation). Varying degrees of validity were shown, with the Preference, Misbelief-Autism, Choice to Explain, and Book Preference tests heading the list. The factor structure of the intercorrelations was also examined in relation to hypotheses.

CONCLUSIONS: The results obtained with these short tests indicate the desirability of further exploration of the relatively virgin field of objective motivation measures. (Slides)

Bahrick, H. P. *see* Noble, M. E.

Bakan, Paul, & Kappauf, William E. (*University of Illinois*) **Systematic errors in dial reading as a function of dial design and of instructions about errors.**

PROBLEM: The effects of design and instructions on the reduction of systematic errors in dial reading.

SUBJECTS: 27 paid volunteer *S*s from an ROTC class.

PROCEDURE: Dials of two designs were compared, a "standard" dial and a "modified" dial. All dials were scaled from 0 to 40, marked by units and numbered every 10 units. The modified dial was designed on the basis of previously developed hypotheses about the origin of systematic errors in scale reading: the 5-marks were coded and the upper and lower halves of the 10-units intervals were differentially marked. Half of the *S*s received instructions on the presumed origin of certain systematic errors and means of avoiding them. The other half of the *S*s did not receive these instructions. The errors considered were errors of +10, +5, and −5 units, and reversal errors.

The *S*s were divided into four groups, corresponding to the following test conditions: (*a*) standard dial, (*b*) modified dial, (*c*) standard dial with special instructions, (*d*) modified dial with special instructions. The dials were read in test books. All *S*s were tested

at the same time on each of five successive days. The first day was a practice session. Each *S* read 2,688 dials over the four-day test period.

Error frequencies, assembled for each *S*, were transformed using the angular transformation and then subjected to an analysis of variance.

RESULTS AND CONCLUSIONS: The groups reading the modified dial made 40% fewer + 10 units errors and 50% fewer + 5 units errors. The special instructions had no significant effect on the frequency of any of the errors under study. The failure of the special instructions to reduce error frequency is thought to have been a function of the way in which the special instructions were presented. (Slides)

Baker, Charles A. *see* Senders, J. W.

Baker, Charles A. (*Aero Medical Laboratory, Wright-Patterson Air Force Base*) **Interpolation accuracy as a function of visual angle between scale marks.**

Interpolation accuracy is an important factor in the use of visual displays. Displays are frequently constructed so that interpolation is necessary in making readings. Previous investigations have studied factors affecting interpolation accuracy. However, no systematic research has been conducted to determine interpolation accuracy as a function of visual angle between scale marks. Indeed, erroneous conclusions concerning the effects of visual angle have been drawn from previous studies when the experimental design used was not adequate for this purpose.

Fifteen male adults were *S*s. The stimulus material consisted of white 9 × 9-in. cards. Each card had a circle 4 in. in radius. Various cards had 0, 1, 3, 7, or 15 equally spaced concentric circles within the 4-in. circle. Thus the concentric circles were separated by ¼, ½, 1, 2, and 4 in. A dot appeared in the center of each card. Five "targets" were placed on each of the 25 stimulus cards. Viewing distances were 10, 15, 20, 30, and 40 in.

The *S*s' task, as instructed, was to read the ranges of the targets to the nearest 10 yd. Successive rings represented distances of 1,000 yd. After a practice session *S*s called out range values for five targets on each of 25 cards. Viewing distance, ring separation, and card series were counterbalanced in a greco-latin-square design. There were two replications.

The visual angles subtended by the distance between range rings ranged from 22° 38′ to 0° 22′. For all visual angles used the accuracy, expressed in percentage of the interval in error, was constant. This contradicts previous assertions. The slope value of .0358 is found when average error in visual angle is plotted against ring-separation visual angle. Various graphic plots will be compared with other interpolation studies on projector slides. The implications of these findings for the design of visual-display equipment will be discussed. (Slides)

Baker, Howard D. (*Florida State University*), & **Hattwick, Robert G.** (*Mental Health Clinic, Savannah, Georgia*) **Dark and light adaptation between intermediate luminance levels.**

The usual measurements of the course of visual adaptation are taken with *S* in the dark following exposure to various luminance levels, or during exposure to light following complete dark adaptation. The present research has extended these measures to the case of dark adaptation from high to lower levels of luminance, and of light adaptation from low to higher luminances.

A two-channel adaptometer provided a 20° adapting field of variable luminance, to which was added at intervals a 1° intensity-increment stimulus flash. The stimulus flash had a duration of 20 msec. and was presented both foveally and 5° parafoveally. The change in visual sensitivity during adaptation was measured by the alteration of the increment threshold as *S* underwent an increase or decrease in adapting luminance level.

Since the same measure was used for both light and dark adaptation, and since the apparatus was identical in both cases, the data allow direct comparisons to be made between these two processes. The apparatus was also used to obtain reference curves for dark adaptation to complete darkness, and light adaptation from darkness, to relate the data to measurements already in the literature.

The *S*s were seven graduate students. Four were women and three were men. None participated in all parts of the experiment.

The dark-adaptation results reveal families of smooth curves gradually leveling at the increment thresholds appropriate to the final luminance levels. Rod-cone breaks show at the dimmer parafoveal levels.

The foveal light-adaptation curves are typical intensity-increment curves, but reduced in size. Parafoveal light-adaptation curves are not duplex, but are either photopic or scotopic depending on the adapting luminance employed. (Slides)

Bare, Roderick H. (*Ohio State University*) **The relation between criteria for B-29 total crew performance and criteria for the performance of the individual crew members.** (Sponsor, Andrew W. Halpin)

PROBLEM: To compare the relationship between crew performance criteria and criterion measures of the individual crew members.

SUBJECTS: 52 B-29 crews undergoing training and evaluation.

PROCEDURE: Five crew performance criteria were derived from (*a*) two types of bombing scores, (*b*) a measure of general crew discipline, (*c*) a measure of the general reputation of the crew, and (*d*) a peer sociometric rating of the general crew reputation. The individual criteria consisted of a measure of the general reputation for different crew positions. The crew and individual criteria were intercorrelated and factor analyzed in order to determine the per cent of common variance which each position shared with the crew criteria.

SUMMARY AND CONCLUSIONS: The results show that 90% of the common variance attributable to crew criteria is explained by the criterion measures for the Aircraft Commander, Radar Operator, Bombardier, and Flight Engineer positions. Furthermore, 32% of the common variance attributable to crew criteria is explained by the aircraft commander's position alone. This latter finding suggests that the designated leader of a crew determines to a large extent the evaluation received by the crew as a whole. This study indicates that evaluations of crew performance are determined largely by the performance of four individual crew members, with the aircraft commander contributing the greatest single influence.

This research was supported by the Human Factors Operations Research Laboratories, United States Air Force, under Contract No. AF 18 (600)–27.

Barnes, H. W. *see* Braun, Harry W.

Barrett, Theodore H., Jr., & McGuire, Carson. (*University of Texas*) **Perception and valuation in recognition and recall.**

The experiment tested a proposition that predictable variations in a valuation process intervene between a perceptual event and the response behavior of human subjects. Stimulus words were grouped in four balanced lists. "Affective" words, representing deferred gratifications, were matched for configuration, length, and frequency with affectively neutral "control" ones. "Shock" words, expressive of immediate impulse, similarly matched innocuous "neutral" ones. A factorial variance model was employed.

All 80 *S*s were Anglo males with verbal IQ's 95 to 125. The four equal subsamples of 20 men varied by age (18–29, 30–57 years) and social status (middle and lower class). Five *S*s in MO, MY, LO, LY subsamples responded to each of four presentation orders.

Two measures of response behavior, visual recognition threshold (VRT) and number of words recalled (NWR) were obtained. Tachistoscopic presentations in serial order under standard conditions yielded VRT scores. Proportion of words recalled per list by presentations provided NWR values.

Predictions about response behavior in the VRT and NWR modes were supported by *F* tests of transformed data. The main effect for word lists, previously zero in the stimulus-bound VRT situation, demonstrated significant differences when perceptual processes no longer operated in NWR. Reflecting variations in visual acuity (VRT) and memory (NWR), age was significant in both modes. Crucial interactions denoting a valuation process in VRT were age-status, age-presentations, status-presentations, and word lists-status. Middle status men responded more rapidly to "affective" words (deferred goals) and lower status men to "shock" words (impulse expression). Middle status subsamples recalled more words of all four lists.

The experiment supports Pratt's formulation that "perceptual dimensions are stimulus bound" as well as Bartlett's proposal that a valuation process accounts for response modification. A word frequency hypothesis is unnecessary. Personality factors clearly operate in response behavior. (Slides)

Barron, Frank. (*Institute of Personality Assessment and Research, University of California*) **Threshold for perception of human movement in inkblots, and its personality correlates.**

PROBLEM: The perception of human movement in inkblots is widely considered by users of the Rorschach test to be diagnostic of certain important aspects of personal functioning (strength of inner resources, imagination, etc). A simple count of the number of such percepts which are verbalized by the *S* constitutes the Rorschach measure, *M*. A possible defect of this measure is that it takes no systematic account of the relationship between stimulus strength and response tendency. The present investigation aimed first at constructing a measure of threshold for *M*, and then discovering its correlates. The first step consisted of the serial arrangement of blots known to differ regularly in stimulus threshold (relative frequencies of *M*-response having been determined in large samples), the *p* values in the series ranging from .00 to 1.00, with graduations of .04. The 26 blots thus finally assembled were selected from 150 blots whose stimulus thresholds had been determined.

SUBJECTS: 40 male Air Force captains.

PROCEDURE: The rank order of the blot in the *M*-series at which *S* first gave an *M* response was his threshold score. These scores were then correlated with scores from other assessment procedures.

RESULTS: Threshold for *M* is significantly related to standardized measures of intelligence, personal stability, social responsibility, ethnic tolerance, and social dominance. It is related also to staff ratings on

self-insight, breadth of interest, and adaptive flexibility. (All of these correlations are negative, a lower threshold meaning greater tendency to see human movement.) The correlation with rated rigidity is significantly positive. Negative correlations of borderline significance are with originality, verbal fluency, and ability to communicate.

CONCLUSION: An attempt to construct an inkblot stimulus series which would permit identification of *S*'s threshold for *M* yielded a measure which correlates significantly and in the expected direction with personality variables generally thought by clinicians to be associated with *M*-tendency.

Bartlett, Neil R. *see* MacLeod, Shelton

Basowitz, Harold *see* Korchin, Sheldon J.

Basowitz, Harold, Korchin, Sheldon J., & Grinker, Roy R. (*Institute for Psychosomatic and Psychiatric Research and Training, Michael Reese Hospital*) **Response to a life stress: the experience of anxiety.**

Previous work has demonstrated that patients with chronic free anxiety manifest elevated hippuric acid (HA) tolerance, distinguishing them from both normals and other patient populations. As part of a multidisciplinary program of research on anxiety, the present experiment attempted further development of this relationship through study of a normal healthy group of individuals undergoing a real life stress of some duration.

A pilot investigation of men in paratrooper training indicated that most of their anxiety had as its locus feelings of shame rather than feelings of guilt. Guilt anxiety is conceived as related psychodynamically to fear of destruction and death; shame anxiety is connected to fear of failure, humiliation, and the loss of self-esteem.

One hundred randomly selected candidates for airborne training were tested for HA excretion prior to training. All of the values were found to lie within a normal range. The 10 highest and 10 lowest individuals in HA excretion were then selected. It was hypothesized that the former group would manifest greater susceptibility to anxiety under the stress of training. The *S*s were required to rate themselves on (*a*) fear of injury (guilt) and (*b*) fear of failure (shame) on each of three days before, daily during three weeks of training, and on two days after training.

Ratings for fear of failure were higher than those for fear of injury within each group. During the pretraining phase and on the first day of training the two groups did not differ appreciably in mean ratings on both scales. However, on every training day thereafter the injury scale showed a consistently higher mean level of anxiety for the high HA group. The failure scale revealed a similar trend, although with some reversals. Moreover, the high HA *S*s manifested markedly more variability of mean scores on both ratings throughout testing. Both groups showed a relative heightening of anxiety on the two scales three days after graduation. This phenomenon is viewed as a loosening of controls under conditions of tension release.

The results suggest that the biochemical index of HA tolerance is a predictor of the experience of anxiety in a meaningful life stress. (Slides)

Becker, Wesley *see* McFarland, Robert L.

Behan, Richard A. *see* Smith, Orville A.

Bell, Graham B. *see* Hall, Harry S.

Bell, Richard Q. (*National Institute of Mental Health*) **Convergence: an accelerated longitudinal approach.**

The problems involved in cross-sectional and longitudinal studies suggest the desirability of a third method. This method involves combining the cross-sectional and longitudinal techniques in such a way that developmental changes for a long period may be estimated in a much shorter period. A study of changes in a dependent variable over what would otherwise be an eight-year period, for example, may be accomplished by measuring each of four age groups three times over a two-year period. The groups are selected so that the final measurement of a younger group is made at the same age as the initial measurement for the next older group. The differences in level attained at the same point in age may be used together with the direction of movement shown by both groups in determining whether any two temporally adjacent curves should be linked. Empirical data are thus available to help the investigator evaluate the hypothesis that each age group is a sample of the same basic population universe, subject to age change only.

This technique, which may be designated as the convergence approach, can be applied to single or multiple variable situations. It is possible to modify the approach so as to evaluate possible discontinuities in development. It cannot replace the usual longitudinal approach if the cumulative effect of an independent variable on a single individual must be studied. If the objective of following individual changes can be reformulated as a desire to identify and follow statistically meaningful subgroups, use of the convergence approach is not precluded.

The method should be particularly helpful where transient or relatively uncooperative groups must be studied, or where extensive observation leads to un-

desirable contamination of an experimental population. (Slides)

Beller, E. K. (*Columbia University*) **Quantification of interviewer behavior.**

PROBLEM: The study was undertaken to quantify interviewer behavior in terms of its stimulus value. Three dimensions were constructed: (*a*) *structure,* the extent to which the interviewer's behavior determines the direction of the interviewee's responses; (*b*) *pressure,* the degree of intensity with which the interviewer's behavior elicits responses in the interviewee; (*c*) *interference,* the extent to which the interviewer's behavior interrupts the responses of the interviewee. SUBJECTS: Two groups of judges in Germany scaled the items: 37 psychology students and 46 professional interviewers.

PROCEDURE: Items of interviewer behavior were selected for each of the three dimensions so as to fit conceptually predetermined scales. The judges were given three anchorage points and were instructed to sort the items into five piles. Medians and semi-interquartile ranges were computed for items within each dimension. Coefficients of correlation were analyzed: (*a*) between the median values of items obtained from the two separate groups of judges, and (*b*) between the median values derived from all judges and the conceptually predetermined values of items.

RESULTS: Item medians within each dimension formed a scale. Because of too wide a range, 3 out of 21 items were excluded from the structure scale, 2 of 17 from the pressure scale, and none of 8 from the interference scale. Coefficients of correlation between median values from two groups of judges were: $r = .97$ for structure items, $r = .96$ for pressure items, $r = .97$ for interference items. Means and variances were not significantly different. Differences in professional experience of judges did not affect obtained scale values. Coefficients of correlation between empirically obtained and conceptually predetermined scale values were: $r = .90$ for structure items, $r = .91$ for pressure items, $r = .99$ for interference items. These findings support the present conceptualization of interviewer behavior. (Slides)

Bennett, W. F., Fitts, P. M., & Noble, M. E. (*Ohio State University*) **Learning as a function of sequential dependencies.** (Sponsor, P. M. Fitts)

PROBLEM: When stimulus events occur as a stochastic process, it should be possible to learn the probabilities associated with the sequence. Four probability learning experiments are reported in which the effects of sequential dependencies in a series of stimulus events were investigated. Guessing habits were also studied.

PROCEDURE: Experiment I.—Twenty *S*s made motor responses in anticipation of the sequence in which one of five stimulus lights would occur and secured knowledge of results after each response. A predetermined sequence of 250 stimuli was employed in which all first-order, all second-order, and all third-order probabilities were equal. The sequences of the *S*s' responses were tabulated through trigram transition frequencies.

Experiment II.—A sequence of 250 events was employed in which each of five lights occurred equally often, but each was followed always by one of two alternatives. Twenty *S*s predicted a sequence containing diagrams which had been guessed with relatively high frequencies in Experiment I. Twenty other *S*s predicted a sequence containing infrequently guessed diagrams.

Experiment III.—A sequence of 500 events was employed in which first-order and second-order probabilities were equal, but third-order probabilities were unequal, i.e., better than chance predictions could be made only from the *two* preceding events. For 10 *S*s the sequence included frequently guessed trigrams, and for 10 *S*s the converse was true.

Experiment IV.—Two groups of six *S*s each were used. Conditions were similar to Experiment III except that *S*s made 1,000 responses, and were told how to solve the problem.

RESULTS: A significant amount of learning occurred with second-order dependencies but there was no significant improvement with sequences containing only third-order probability constraints. Sequential guessing habits persisted for a considerable number of trials.

This work was supported by the Perceptual and Motor Skills Research Laboratory, Human Resources Research Center, Air Training Command. (Slides)

Bentz, V. J. (*National Personnel Department, Sears, Roebuck and Co., Chicago, Illinois*) **A test-retest experiment on the relationship between age and mental ability.**

A test-retest investigation of mental ability was executed using 209 males, originally tested about eight years ago on the American Council on Education Psychological Examination. A stratified random sample, of two age groups (40 and over, 34 and under), was subdivided in terms of high, average, low ability levels.

Purpose was to ascertain (*a*) if people change in mental ability as a function of age, (*b*) the change direction, (*c*) change amount for younger vs. older people when time-span since original test was constant, and (*d*) if direction and change-magnitude would differ for individuals of similar age but differing ability level.

When retest directional trends (not regarding magnitude) are investigated the older group declines, younger increases. When directional changes are investigated in terms of ability level, the increase-decrease proportion varies markedly in terms of differential ability level. Decline is manifest for the most intelligent older group; a countertrend toward increase on the part of the less intelligent older group. Changes take place as a function of time but change-direction is influenced by age and differential ability level.

When change-magnitude, without regarding age, is investigated, changes are slight. Only Q, for the most intelligent, declines significantly.

The older group drops in ability, this drop being a function of (*a*) age, (*b*) ability level, and (*c*) kind of ability (L, Q, G) measured. The very intelligent group loses most, in Q, but loss-significance disappears with down-scale progression, stability being maintained by average and low groups.

Younger men consistently increase. This increase is relatively constant throughout the levels of ability, age being constant, the only exception being the most intelligent group where Q decreases slightly. This group's tendency to increase in ability is of such consistency and magnitude that one may view this age period as one of intellectual growth.

Berdie, Ralph F. (*Student Counseling Bureau, University of Minnesota*) **Changes in self-ratings as a method of evaluating counseling.**

The purpose of this study was to determine the degree to which changes in self-ratings of abilities, measured interests, and measured personality characteristics would reflect results of counseling. The subjects consisted of 89 entering college students who received counseling designed to increase their self-knowledge during their first six months in college and 91 comparable students who received no such counseling. At the beginning of the experiment, all *S*s were given interest, personality, and ability tests and also requested to make self-ratings corresponding to the measured characteristics. Six months later all *S*s were asked again to make the self-ratings and both sets of self-ratings were compared to test scores. Changes in self-ratings for the experimental group were compared to changes in ratings for the control group.

For the total group of men and women in the experimental and control groups, the second ratings bore no more resemblance to the test scores than did the first ratings, but when the men were considered separate from the women, the counseled men were able to rate their measured vocational interests more accurately than the control group after counseling, although the two groups had been similar before counseling. Significantly more of the noncounseled students than of the counseled students left school during the first six months of the academic year.

Changes in self-ratings of vocational interest provide one means of evaluating the effects of such counseling, although no such evidence is found for self-ratings of abilities or measured personality characteristics.

Berger, Emanuel M. (*Student Counseling Bureau, University of Minnesota*) **Relationships among expressed acceptance of self, expressed acceptance of others, and the MMPI.**

PROBLEM: The MMPI is used widely in counseling and clinical work. The purpose of this study was to increase our understanding of the clinical scales of the MMPI in terms of self-acceptance and acceptance of others.

SUBJECTS: 109 male examinees and 76 female examinees at the Student Counseling Bureau.

PROCEDURE: The MMPI and scales for the measurement of expressed acceptance of self and others were administered to the *S*s. The construction, reliability, and validity of these latter tests are discussed in a previously published paper. Mean scores on the MMPI scales were computed.

RESULTS: For the men, correlations significantly greater than zero at the 1% level were obtained between self-acceptance and: *K, D, Pt, Sc,* and *Sie* (positive for *K*, negative for the others). These ranged from .40 to .63; and between acceptance of others and: *K, Hy,* and *Sie* (positive with *K* and *Hy*, negative with *Sie*). These ranged from .38 to .55.

For the women, such correlations were obtained between self-acceptance and: *K, D, Pt, Sc,* and *Sie*, same signs as for men. These ranged from .48 to .70; and between acceptance of others and *Pt*, −.32. The mean scores for these Student Counseling Bureau groups were found to be comparable to those for a large sample of University of Minnesota students.

CONCLUSIONS: Although hypotheses about an individual's personality should generally be considered in terms of patterns, in the absence of definite patterns, *K* and *Sie* scores may be used as fairly good indications of extent of self-acceptance. Self-acceptance appears to be a significant factor in the *K, D, Pt, Sc,* and *Sie* scales for both men and women in the population tested and, considering the representativeness of their means, for the college students at the university as a whole. It should be noted that expressed self-acceptance may be realistic or not, truthful or not, and the self-deceptive form it sometimes takes is suggested by the fact that there is a positive, although not significant, correlation (.25) between it and *Hy* for men. Further

implications of the results with regard to individual scales and patterns are discussed.

Berkhouse, Rudolph G. *see* Kaplan, Harry

Bernreuter, Robert G. (*Pennsylvania State College*) **Improvement of memory span tests.**

PROBLEM: To devise ways to improve memory span tests in reliability and in fineness of scaling.

SUBJECTS: 190 fourth-grade children; 46 in the preliminary study and 144 in the main study.

PROCEDURES: Three new tests were constructed, each in two forms, using numbers, letters, and nonsense syllables. A preliminary study showed that letters ending in an "ee" sound, and syllables of two consonants and a middle vowel were confusing. The letters f, h, k, l, n, r, s, and q were finally used. The syllables were made by adding "aw" to the letters b, d, f, g, h, k, m and t. Both forms of each test were given individually, in 12 sequences, to control practice and fatigue effects.

RESULTS: The mean length of span was: numbers, 5.83; letters, 4.89; syllables, 3.71. The reliabilities of single forms were: numbers, .65; letters, .51; syllables, .44; of two forms combined were: numbers, .79; letters, .68; syllables, .61; numbers plus letters, .87; numbers plus letters plus syllables, .87. The intercorrelations using two forms and corrected for attenuation were: numbers vs. letters, .96; numbers vs. syllables, .72; letters vs. syllables, .96. The ranges of scores varied from 6 to 15 points. An analysis of variance showed that practice and fatigue effects were negligible.

CONCLUSIONS: Memory span length varies with the type of material used. A test with adequate reliability for use in individual diagnosis can be constructed by using two forms of a numbers test plus two forms of a letters test. Such a test would yield finer gradations of ability than would a single numbers test. Adding two forms of a syllables test would not increase the reliability but would further increase the fineness of gradation.

Bevan, William *see* Secord, Paul F.

Bexton, W. H. *see* Heron, W.

Birren, James E. (*National Institute of Mental Health*) **The measurement of adult intelligence and intellectual decline.**

There are three general classes of application of intellectual tests in the elderly: (*a*) vocational guidance, (*b*) clinical diagnoses, and (*c*) research. These applications raise questions to which the answers are not provided by existing tests. Some improvement may be made by separating speed and probability scores, selecting test items more appropriate for the various ages, and modifying existing procedures to reduce sensory artifacts. More critical, however, is the need for investigations in which the test results are related to known characteristics of the *S*s, e.g., healthy adults and patients with various chronic diseases, successful and unsuccessful employees, and control conditions and conditions of physiological stress.

Limitations of existing concepts of intelligence have been re-emphasized by the inability to interpret the loss of speed in test responses of the elderly and the markedly slow responses observed in senile dementia, i.e., "speed" and "power" relations. Results of studies to date suggest several hypotheses to explain slower test response: (*a*) Sensory impairment which occurs with advancing age reduces the maximum excitation that a stimulus can impart to the nervous system, with a concomitant lengthening of response time. (*b*) Reduced sensory input results in delayed perception and per unit time a greater probability of incorrect perception. (*c*) Reduced sensory input affects unfamiliar skills more than familiar ones. While impairment of a skill is first manifested in reduced speed of performance, compensation, e.g., increased familiarity and repetition of sensory impressions, may maximize output. Thus, abilities largely dependent upon past experience are relatively impervious to changes occurring with advancing age and are last to be affected by senescent changes in the nervous system. (*d*) With organic change, e.g., senile dementia, the long time required to enter the sensory impression and to effect perception may lead to disintegration of the skilled act by virtue of the decay in excitation value of the relevant items in the attention span. (Slides)

Bitterman, M. E. *see* Wodinsky, Jerome

Blades, Clifford, Sheer, Daniel E., & Worchel, Philip. (*University of Houston and University of Texas*) **Configurational constancy: the differential effects of training in visual imagery and verbal analysis.** (Sponsor, Daniel E. Sheer)

PROBLEM: One aspect of spatial orientation involves the ability to organize geographical objects in the environment or representations of these objects into some sort of a topographical scheme or "mental map." This study is concerned with determining the differential effects of two training procedures, visual imagery and verbal analysis, on the ability to recognize configurations regardless of changes in their intrinsic elements.

SUBJECTS: 80 university students were equally subdivided into two training groups, visual and verbal.

PROCEDURE: The experiment consisted of five sessions: (*a*) test; (*b*) training session I; (*c*) training session II; (*d*) retest; (*e*) practicum. The test and

retest had 30 items, each item consisting of an inspection configuration (three black circles and a center reference point) followed by four multiple-choice configurations. One of the multiple-choice configurations was the same as the inspection stimulus, but 5 multiple-choice items differed in form of elements, 5 in size, 10 in distance between elements, and 10 in orientation of the elements.

The training sessions consisted of complex practice material similar to the test. The practicum consisted of a radar chart on which the *S*s were required to plot a course between two points from 15 configurations presented at specified intervals along the course.

After the initial testing session, the visual group was given instructions and practice on "looking" at the configuration as a whole, while the verbal group had practice in breaking the configuration down and noting the longest distance between two elements and the opposite angle.

RESULTS: The *S*s were equated on the initial testing session. The verbal group was consistently better on each of the subsequent training and testing sessions. There was a reliable difference between the two groups on training session II, retest, and the practicum. Correlations between test and retest were .64 and .74; between training sessions .73 and .87; and between retest and practicum .47 and .59.

Blake, Robert R. *see* McConnell, James V.

Bleke, Robert. (*Duke University*) **Reward and punishment as determiners of reminiscence effects in schizophrenic and normal subjects.**

PROBLEM: A number of psychological investigations have indicated that social punishment produces behavior decrements in schizophrenic *S*s. It has been posited that these decrements are a result of "interferences" produced by threat of punishment. An interference concept has also been utilized to explain reminiscence with normal *S*s. Thus, the present study is an attempt to explore the hypothesis that schizophrenic *S*s will show greater reminiscence effects when threat of social censure is operative during learning than when social rewards are operative.

SUBJECTS: 40 schizophrenic and 40 nonpsychiatric veteran patients equated for age, education, and intelligence.

PROCEDURE: *S*s learned a pattern of appropriate pull-and-push movements of a switch lever in response to a series of nouns projected successively on a screen. Criterion for mastery of the task was attained when the series of 14 movements had been executed without error. Each *S* learned two lists of words, one under rest conditions in which a two-minute rest period was introduced when the criterion 10/14 words correct had been attained, and one under massed conditions in which no rest period occurred. Half of the normal and schizophrenic *S*s were tested under a reward condition characterized by the lighting of a signal box reading *right* following correct responses. The remaining *S*s were run under a punishment condition in which a signal box reading *wrong* lighted for incorrect responses.

RESULTS AND CONCLUSIONS: Under the punishment condition the schizophrenic group showed more reminiscence than the normal group, with the major portion of these effects being contributed by schizophrenic patients with poor premorbid levels of adjustment. Schizophrenic and normal *S*s performed similarly under the reward condition. The results are examined from the viewpoint of psychopathology, reminiscence, and learning theory. Explanations based upon differential rate of forgetting and heightened motivation hypotheses, possibly in the form of an increased anxiety drive, appear relevant to the data. (Slides)

Blodgett, Hugh C., Jeffress, Lloyd A., & Deatherage, Bruce H. (*University of Texas*) **Directionality of sounds having large interaural time differences.** (Sponsors, Hugh C. Blodgett & Lloyd A. Jeffress)

PROBLEM: To investigate the ability of *S*s to detect "sidedness" in binaurally presented noise where there is a time delay in the channel to one earphone.

SUBJECTS: 7 adult human males.

METHOD: Delay is effected by a binaural tape recorder having one movable head. Noise recorded with the head at one extreme of its travel and played back with it at the other extreme was delayed by 24 msec. A micrometer provided intermediate values to 0.5 msec.

Condition 1. With the micrometer set for maximum delay, *S* adjusted it, reducing the delay, until the diffuse "all-around" sound began to appear one-sided.

RESULTS: Average delays for 20 randomly presented sounds, 10 from each side, were 9.5 msec. for a wide-band noise (106 ~ to 4800 ~) and 7.5 msec. for a narrow band centered at 425 ~. *S*s made 100% correct judgments of direction, showing these values to be well within threshold.

Condition 2. Twenty "bursts" of noise were recorded on a tape loop, 10 with the adjustable head at one extreme of its travel and 10 at the other, in random order. *S* was asked to indicate whether the sound came from the left or right. By adjusting the micrometer in playback, *E* provided delays ranging from 2 to 22 msec., in 2-msec. steps. Two methods of presenting the noise were possible here: (*a*) both the noise and its envelope were delayed equally; (*b*) only the noise was delayed. Here the envelopes for both channels were created simultaneously by an

electronic gate. Both methods turned the sounds on slowly.

RESULTS: The first method yielded correct responses up to 22 msec. because *S* used both the "precedence" of the envelope and the sidedness of the noise. The second method was sufficiently difficult, with long delays, to yield thresholds. For wide-band noise, the 75% threshold averaged 15 msec. Results for various narrow bands will be presented. (Slides)

Boileau, Dorothy N., Gump, Paul, & Hammond, Kenneth R. (*University of Colorado*) **Cognitive, motor, and perceptual "perseveration" in relation to two situational tests.** (Sponsor, Kenneth R. Hammond)

One measure of cognitive perseveration, one measure of perceptual perseveration, and a battery of motor perseveration tests were related to performance in two situational tests—an individual stress test and a small ($N = 5$) group leadership test. The *S*s were 66 State Highway Patrol candidates.

Cognitive perseveration was measured by an Einstellung test involving a change of set in order to solve later problems efficiently. Motor perseveration was measured by a battery suggested by Cattell requiring the performance of an old habit in a novel fashion. Perceptual perseveration was measured by lag in identifying pictures brought into focus by stages.

Correlations between each perseveration measure and ratings on the situational tests were computed. Also, objective records of the behavior of the candidates in each situational test were obtained and these data were related to the above measures.

The results indicate that (*a*) cognitive perseveration is not related to ratings or behavior in either the group or stress test, (*b*) contrary to earlier findings, motor perseveration is related positively to ratings of over-all performance, effective intelligence, and emotional stability in the stress test. In the group test "good" and "poor" leaders were significantly higher perseverators than were "average" leaders. The same curvilinear relationships with various behaviors in the group test were found. (*c*) Perceptual perseveration is related to ratings of effective intelligence (positively) and emotional stability (negatively) in the stress test. In the group test those rated "good" leaders were significantly lower perseverators than those rated "poor" leaders. Perceptual perseveration was also related to various behaviors in the group test.

Specificity of the three kinds of perseveration tests is indicated by low correlations among them.

Bond, Hudson J., & Parker, Judith T. (*Johns Hopkins University*) **The effect of alternating messages between channels in simultaneous listening.** (Sponsor, Hudson J. Bond)

PROBLEM: A problem frequently encountered in communication centers is that of listening to two or more channels at once or in alternation. This investigation examined the effects of alternating relevant and irrelevant messages simultaneously between two voice channels.

PROCEDURE: Eighteen Navy enlisted men listened to a series of 32 exercises prepared on magnetic tape. Exercises consisted of two 60-word messages spoken simultaneously through one loud speaker by a male and a female voice. Messages were random sequences of eight monosyllabic letters or numerals. Four levels of alternation frequency—0, 5, 10, and 20 alternations per exercise—were combined with two transmission rates, 30 and 60 words per minute. The *S*s attempted to write down the words according to instructions either for one of the messages or for a particular voice channel. Each *S* performed under all conditions and instructions, order of which was systematically varied.

RESULTS: In general, the effect of increased alternations was to increase errors, but this effect was almost wholly confined to instruction conditions in which *S*s attempted to follow messages. Alternations produced little effect when attending to voices. Explanation was thought to lie in the distinguishability of voices as compared to that of the meaningless messages. The increase of errors was approximately linear for both transmission rates except that the rate of increase tapered off for the fast rate at the maximum alternation frequency. Three times as many errors occurred with the fast as with the slow message rates and twice as many occurred for message as for channel instructions. That *S*s were able to perform the task was indicated by the fact that the largest error was only 24% for the most difficult combination of conditions.

Implications for auditory perception are discussed. (Slides)

Bornstein, Harry, & Jensen, Barry T. (*Personnel Research Branch, Personnel Research and Procedures Division, TAGO*) **An hypothesis regarding the observations required for the measurement of performance.**

PROBLEM: To develop a rationale for use in constructing comprehensive performance tests for evaluating large numbers of men in a very brief period of time, utilizing personnel largely untrained in testing.

PROCEDURE: Performance in the job sample situation was analyzed into process and product. Product was

further broken down into tangible and intangible. Intangible product was offered as a substitute measure for direct measurement of process which is often lacking in precision. The measurement of both tangible and intangible products is designed to offer a more representative sampling of performance.

Delay of process is recommended as the means of achieving measurement of intangible products. Specific conditions are presented as well as when they may be applied in a group testing situation.

RESULTS: Preliminary findings were obtained for an eight-minute, ten-item, group-administered performance test. No significant differences were found between the means and standard deviations of scores assigned by military and psychologist testers. In addition, test scoring reliabilities were .83 and .84. An item analysis suggested the reliabilities of scoring of intangible products was not appreciably less than those obtained for scoring of tangible products.

Boulger, John R. (*Civilian Personnel Research Branch, USAF Hq.*) **The generalized distance function and differential aptitude testing.**

PROBLEM: Much research has been undertaken with the United States Employment Service (USES) General Aptitude Test Battery (GATB), but none of it has been specifically designed to test the hypothesis underlying their program: that occupational groups can be differentiated with their tests. Recently it has been suggested that psychologists turn their attention away from the question of employee selection to the problem of classification. With the development of Fisher's linear discriminant function and generalizations of it, the technique for both the testing of the hypothesis and for the classification of employees is now available. The present paper is one of the first applications of Mahalanobis' generalized distance function, D^2, to the problem of classifying workers on the basis of aptitude test scores.

SUBJECTS: Three groups of employed women—118 knitting mill workers, 54 tabulating machine operators, and 70 hand decorators in a pottery plant.

PROCEDURE: The sample of workers was randomly divided into two subsamples and a double cross-validation design used. D^2 was calculated and tested for significance by means of Hotelling's variance-ratio test. Following the method of Rao, discriminant coefficients were determined separately for each subsample and then applied back on both subsamples. The efficiency of classification was tested by comparing the predicted occupation with the actual occupation for each worker in the subsamples.

RESULTS: In each subsample, the variance-ratio test showed the various pairs of groups could be differentiated. Using either the discriminant coefficients obtained in the validation or in the cross-validation subsample, classification was significantly better than chance ($p < .01$). Prediction of occupation using the cross-validation weights was only slightly less effective than that using validation weights (58% and 62% respectively).

The author wishes to express his thanks to Dr. Beatrice J. Dvorak, Chief, Testing Branch, USES, Earl R. Broberg and Ruth Potter of the Minnesota SES, not only for permission to conduct this study, but also for their wholehearted cooperation in every phase of the study. The author is especially grateful to A. E. McKenzie and J. J. Schneider, supervisors of the IBM Section of MSES which did much of the computational work. (Slides)

Boynton, Robert M., & Bush, William R. (*University of Rochester*) **Dark adaptation and the instantaneous threshold.**

PROBLEM: To determine the course of dark adaptation during the first fraction of one second.

SUBJECTS: The authors.

APPARATUS: Two beams of light enter *S*'s eye via a Maxwellian view. They are seen as two concentric circular fields. The larger, subtending a visual angle of 7°, provides an adapting stimulus; the smaller, 3.5°, a test flash of 0.04-sec. duration. The time between the offset of the adapting stimulus and the onset of the test flash is variable to within 0.005 sec. Negative time intervals were also used, meaning that the test flash was sometimes delivered before the offset of the adapting stimulus.

METHOD: Following preadaptation, thresholds for each time in the dark were determined by a descending method of limits, with repeated presentations of the following sequence: (*a*) adapting light off; (*b*) test flash delivered after a given time interval; (*c*) adapting light restored to allow *S* to regain steady-state level. Thresholds were thus determined for times ranging from -0.2 to $+0.5$ sec., at the following adapting luminances: 328 mL, 32.8 mL, 3.28 mL, .328 mL. Nearly monochromatic light of 514 mμ was used throughout.

RESULTS: The drop in absolute threshold during the first half-second of dark adaptation ranged from nearly two log units for the highest adapting level to about 0.5 log units for the lowest adapting level. The drop began at zero time for the highest level, at 0.02 sec. at the lowest level. A nearly equal "anticipatory" rise in the intensity discrimination threshold was observed for negative times at all adapting levels.

CONCLUSIONS: Our results indicate that, especially for the higher luminances, an appreciable portion of the dark-adaptation process (which is ordinarily not measured) is completed within a half-second. Our data also show that there is no single "instantaneous threshold" whereby the light-adapting effects of the preadaptation stimulus can be evaluated. (Slides)

Brackbill, Glen A., & Wilcox, Yvonne. (*University of Colorado*) **Some reactions to first remembered sexual climax.**

PROBLEM: There is considerable information concerning sexual behavior, but it is usually in the form of tables which give the frequencies of various kinds of sexual outlets. Little information is available concerning people's subjective reactions to the appearance of this new capacity. This is an unfortunate gap, since it is possible that first experiences may be instrumental in shaping future activities in the same experiential sphere. It would seem that the first experience of sexual climax might be particularly important in this respect, since sexuality is generally considered an important aspect of personality development. This study, then, is a preliminary attempt to gain information about factors significantly associated with reports of pleasant or unpleasant reactions to first remembered sexual climax. It is essentially information-gathering. One specific hypothesis was investigated, i.e., that secure *S*s would report more pleasant or satisfactory feelings for their first remembered experience of orgasm than would insecure *S*s.

SUBJECTS: 27 female and 20 male students, randomly selected from a general psychology course at the University of Colorado. The mean age was 19 years.

PROCEDURE: The *S*s were asked to complete: (*a*) a biographical questionnaire, (*b*) a Maslow Security-Insecurity Scale, (*c*) a description of the situation in which their first remembered orgasm occurred and their feelings about it, and (*d*) an adjective checklist. Secure and insecure *S*s were compared as to the kinds of adjectives checked.

RESULTS: In terms of adjectives checked, secure *S*s reported significantly more pleasant-satisfactory feelings than did insecure *S*s ($p = .05 - .02$); insecure *S*s reported significantly more unpleasant-unsatisfactory feelings than did secure *S*s ($p = .01$). The word "bewilderment" was checked most often in both groups as best describing their feelings while "indifference" was checked most often as least descriptive of their feelings. It was also found that male *S*s reported significantly more pleasant feelings than did female *S*s.

Brady, Joseph V. *see* Stebbins, William C.

Brady, Joseph V., Schreiner, Leon, Geller, Irving, & Kling, Arthur. (*Army Medical Service Graduate School, Washington, D. C.*) **The effect of bilateral amygdaloidectomy upon the acquisition and retention of a conditioned avoidance response in cats.** (Sponsor, Joseph V. Brady)

This report describes an investigation of the acquisition and retention of a conditioned avoidance response in cats with surgical lesions of the amygdaloid nuclei. Avoidance training consisted of presenting a clicking noise for 30 sec. followed by electric shock through the floor of a conventional "double-grill" box. The avoidance response consisted of the passage of the animal through a doorway to the opposite side of the box during the 30-sec. conditioned-stimulus interval, thus terminating the clicker and preventing the shock.

In Part I of the experiment (acquisition), 28 male adult stock cats were divided into three groups. Group I (10 animals) sustained bilateral amygdala lesions *prior* to avoidance training. Group II (3 animals) sustained lesions in the hippocampus (2 cats) or cingulate cortex (1 cat) *prior* to avoidance training. Group III (15 animals) was trained and served as unoperated controls.

The avoidance response was established in all animals to a 90% criterion by successive daily sets of 30 trials each. The amygdaloidectomized animals (Group I) required significantly more sets of trials to reach criterion than either the operated (Group II) or unoperated (Group III) control animals (.01 level of confidence).

In part II of the experiment (retention), three subgroups were formed from the animals of Group III. Subgroup A (3 animals) sustained bilateral amygdala lesions and Subgroup B (3 animals) sustained bilateral orbital-frontal lesions *following* acquisition of the avoidance response. Subgroup C (3 animals) served as controls.

Postoperative tests in all three subgroups revealed no significant detriment in retention of the avoidance response in either the amygdaloidectomized cats (Subgroup A) or the unoperated control cats (Subgroup C). The frontal-lobectomized cats (Subgroup B), however, showed no retention of the avoidance response even after 200 retraining trials.

The implications of these findings for theoretical formulations of avoidance learning will be discussed. (Slides)

Braun, Harry W., Patton, R. A., & Barnes, H. W. (*University of Pittsburgh*) **Effects of electroshock convulsions on the solution of discrimination-reversal problems by monkeys.**

PROBLEM: The present study was concerned with the effect of a series of electroshock convulsions upon the solution of discrimination-reversal problems by monkeys. Previous research had indicated that after electroshock monkeys tended to adopt a perseverative response pattern in solving object-quality discrimination problems. Through the use of the discrimination-reversal test, additional information was sought concerning the conditions of this phenomenon.

SUBJECTS: 8 rhesus monkeys with previous experience.

PROCEDURE: On the basis of previous object-quality discrimination-learning scores, the *S*s were divided into two equal groups. One group was subjected to a series of 20 electroshock convulsions over a 7-week period. A current intensity of 75 ma. for 1.0 sec. was used to induce *grand mal* convulsions. Nineteen days after electroshock, a series of 96 discrimination-reversal problems was presented.

The standard Wisconsin Primate Laboratory apparatus was used. Pairs of stimulus-objects which differed in multiple characteristics were chosen from a randomized collection. Each discrimination-reversal problem consisted of an object-quality discrimination phase of 3, 4, or 5 trials during which the *A* object of the pair was rewarded, followed immediately and without warning by a reversal phase of three trials during which the *B* object was rewarded. Eight problems were presented daily.

RESULTS: (*a*) No statistically significant differences in learning appeared between convulsed and control groups in either the discrimination phase or the reversal phase of the problems. (*b*) Both groups showed the interproblem improvement characteristic of the formation of a learning set.

CONCLUSION: The perseverative response pattern which had been observed immediately after a series of electroshock convulsions appears to be of temporary duration. (Slides)

Brenner, R. *see* Case, Harry W.

Bridges, Claude F. (*Division of Test Research and Service, World Book Company*) **"Atomistic" and "holistic" prediction of success via effectiveness scores.**

PROBLEM: Efforts to predict academic and vocational attainment from direct appraisal of individual aptitude factors (or "atoms") have not, as a whole, been very highly successful. Even use of optimally weighted composite scores usually leaves much to be desired. This is due partially to the lack of adequate measures of significant motivations, attitudes, work habits, aspirations, and other pertinent characteristics of the individual and his background. Even if a battery precisely measuring all significant aptitudes were available, the predictions probably would still have inadequacies due to the lack of a statistical technique for quantitatively expressing the total cumulative effect of the *interaction* of the pertinent variables in producing the desired attainments, or for expressing the functional whole or unity of the aptitude structure.

If there is any generalization which can be made as a result of the extensive research on prognosis, it is that the best single predictor of how effectively an individual will function in a given area in the future is the effectiveness with which he typically has functioned in the same area in the past. A more specific corollary is that the best single predictor of the total effectiveness with which an individual will utilize his aptitudes in a given area in the future is the effectiveness with which he has utilized these aptitudes in the same or closely related areas in the past.

When suitable measures both of specific aptitudes and of attainment are available for an appropriate population, it is easy to determine the predicted attainment (mean) for all individuals at any given level of aptitude. Deviations from this predicted attainment, which significantly exceed deviations attributable to errors of measurement, may be related to other factors which are inadequately represented by the prognostic scores. It seems reasonable to hypothesize that such a significant difference reflects, to a useful extent, the total cumulative effect, in producing successful attainment, of these other inadequately represented factors and of their possible interaction. In other words, such differences may reflect also the result of the otherwise unmeasured "wholeness" in the functioning of the specific aptitudes. Some of these specific aptitudes may be relatively constant in magnitude over a period of years, while others may fluctuate over short intervals of time.

The problem thus becomes: (*a*) What is the most technically sound and practical way of determining such "deviation scores"? (*b*) What is the clearest and most useful way of presenting them? (*c*) What are their technical characteristics (stability, intercorrelations, validity for specified purposes)? (*d*) What evidence can be obtained as to the soundness of the above hypothesis?

SUBJECTS: 16 systematic samples, of approximately 300 each, drawn from the national standardization populations for 12 high school achievement tests and for each grade (9–12) on a general achievement battery; also a homogeneous population of approximately 200 students in one grade of a public high school.

PROCEDURE: The recommended procedure for developing and presenting such "deviation scores," their technical characteristics, their utility and validity for differential prediction in the educational situation, some of their concomitants, and their unique contribution to predicting future academic achievement will be presented and the implications discussed.

CONCLUSIONS: The difference between an individual's validly measured attainment in a given area or activity and the typical attainment of other individuals with the same score on a reasonably valid aptitude test or battery is, in itself, a measure of the effectiveness with which the individual's aptitudes have func-

tioned to produce attainment in the past and can justifiably be called an "effectiveness score."

Such effectiveness scores are sufficiently stable and unique to be useful in predicting future effectiveness in the same area or in sufficiently similar areas.

Brown, E. M. *see* Pfaffmann, C.

Brown, John Lott. (*Columbia University*) **The effect of different preadapting luminances on the resolution of visual detail during dark adaptation.**

The purpose of this experiment was to provide an additional basis for evaluating the effects of preadapting luminance on dark-adaptation curves by using criterion test measures other than light-detection threshold.

Luminance thresholds for the resolution of different widths of grating line were determined during dark adaptation after 5-min. preadaptation to "white" light (2860° K). Four preadapting luminances were used: 11,200, 1,290, 100, and 0.98 ma. Grating lines were illuminated in a centrally fixated test area 7.3° in diameter. The duration of exposure was 0.016 sec. Gratings consisted of alternating transparent and opaque lines of equal width. Three different line widths were used, corresponding to visual acuities of 0.62, 0.25, and 0.042.

Data were obtained for two *O*s, one male and one female, both of whom were emmetropic, of better than average visual acuity on the basis of clinical standards, and anastigmatic.

Dark-adaptation curves for the finest gratings, representing high visual acuity, start at a high initial luminance and drop to a final steady level after 5 to 12 min. in the dark, as is characteristic of cone function. Curves for coarser gratings may display both cone and rod portions, or after light adaptation to low luminances may represent rod function only. The higher the degree of resolution required, the higher the position of dark-adaptation curve with respect to the log threshold-luminance axis. Increasing the level of light adaptation results in higher initial threshold luminances and a more gradual decline to a final steady value. The final steady value of threshold luminance for a given value of acuity is little influenced by the level of light adaptation. (Slides)

Brown, William F. *see* Holtzman, Wayne H.

Bruner, Jerome S. *see* Austin, George A., and Matter, Jean

Bruner, Jerome S., Austin, George A., & Seymour, Robert V. (*Harvard University*) **Free-choice strategies in concept attainment.**

PROBLEM: Most concept-attainment experiments present stimulus material in fixed or random sequential order. What strategies would *S*s employ if allowed to choose instances freely?

SUBJECTS: 19 undergraduates.

PROCEDURE: *S*s were presented a systematic array of 81 cards, each containing one of three possible values of four attributes (color, form, number, border). After being shown a positive instance of a concept, *S*s chose one card at a time and were told whether it was "correct" or "incorrect." One guess as to the concept was permitted after each choice. *S*s attained two concepts, one defined by a single defining attribute (e.g., red figures), another by two defining attributes (e.g., green circles).

RESULTS: Efficient attainment depends upon the choice and maintenance of a *positive focus*—a positive instance from which *S* proceeds by altering a single attribute at a time. Such a focus permits utilization of information in a manner such that memory interference is minimized and inference made simpler. Beyond this central finding, the following results emerged: (*a*) *S*s use more positive than negative cards for foci and the latter are considerably less effective as foci; (*b*) focus change more often follows choice of a positive than a negative instance; (*c*) focus change is usually to a new focus, save after utilization of a negative focus following which regression to a previous positive focus often occurs; (*d*) choice of redundant instances (cards containing no new information about the concept) follows more often after a positive than a negative instance; (*e*) positive cards are chosen in excess of chance expectancy.

CONCLUSIONS: To utilize concept-relevant information optimally, human *S*s must order it about a focus in order to prevent memory interference. By using a positive focus from which changes can be made in one attribute at a time, the inferences required are also rendered less complex.

Bryan, Beatrice Irene. (*VA Hospital, Nashville and Vanderbilt University*) **The functional interrelationships of word association, perception, learning, and memory.**

PROBLEM: To investigate the hypothesis that the individual's behavior in response to the same objective stimuli is functionally equivalent in word association, perception, learning, and memory. Lengthened association time, high threshold of perception, slowness of learning, and failure at recall were considered equivalent (defense processes); the opposites were considered equivalent (sensitization processes).

SUBJECTS: 25 college students, ages 18 to 33.

PROCEDURE: (*a*) Administration of word association list; (*b*) tachistoscopic presentation of words; (*c*) learning of paired associates, composed of a stimulus

word and a meaningless nonsense syllable; (*d*) retention test.

RESULTS: Correlation for individual *S*s between paired variables, in general, were not significant. Marked intra-individual and interindividual variability prevailed. Group data showed statistically significant relationships as predicted between word association and (*a*) perception, (*b*) learning, and (*c*) recall, and between learning and recall. Means of sampling distributions of correlations all differed from zero in predicted direction, but only two were statistically significant. Mean difference scores for extremes of each variable differed from the means for all words in predicted direction in 11 of 12 cases, though not all were statistically significant.

CONCLUSIONS: In general, individual data failed to support the hypothesis, though group data did. Data suggest that some individuals react with functional equivalence in these areas of behavior, whereas others use different techniques in various areas. Significant relationships sometimes exist between extremes of distributions of scores though not for the entire range. Functional equivalence sometimes exists for two areas of behavior when compared on basis of extremes in one area, but not when compared on basis of extremes in other area. Equivalence should be concluded only if the equation is transposable. Personality studies are needed of those reacting counter to group trends versus those behaving with group trends.

Buckingham, Guy E. (*Allegheny College*) **Holes in the criterion.**

A partial historical survey of data showing the low relationships between predictions and job output; an attempt to trace the low correlation between predictions and job output to job and personal learning processes as well as to inaccurate measures of job output; an attempt to set up inferences called "holes in the criterion"; and, finally, a suggestion about either including both process and product in the criterion or increasing the emphasis on the process, while keeping only the product as the criterion.

HOLES IN THE CRITERION: (1) Society's use of the mean standard product for a long range of potential. (2) Society's expectancy of a mean standard product from individuals regardless of relative positions within the range of potential. (3) Few accurate measures of the product. (4) Few accurate definitions of the product wanted. (5) Too frequent expectancy of human material to plan, initiate, and produce change in itself. (6) Not enough attention to process. (7) Too much weight on the assumption that experience in and of itself is automatically in a positive direction. (8) Lack of intellectual courtesy in processing high level talent. (9) Lack of preparation of the directors of the process. (10) Too much dependence on single stimulus—single response training rather than on learning to the point of generalization. (11) Use of traits not necessarily related to product in measuring product.

Although holes 5, 6, 7, 8, 9, and 10 are logically confined to process, it must be conceded they lower correlation between potential and product. If the ones involved in these holes also judge product, they are automatically in the criterion. We, therefore, must either combine process and product to form the criterion or keep product as the criterion while plugging holes in the process.

Burch, Irenaes A. (*Chicago State Hospital*) **A test of defensive character integration.** (Sponsor, Lennart C. Johnson)

In contrast to Cattell's development of projective inventories based upon Freudian mechanisms, a scale was founded upon Horney's hypothesis that neurotic integration is achieved through the individual's idealization of his defensive mode of interaction. Thus in the individual's awareness his characteristic submission, dominance, or withdrawal is not seen as anxiety avoidance but rather as behavior appropriate to one who values love, power, or freedom, respectively. A *rapprochement* appears between measurement of values and familiar submission-dominance, etc., categorizations.

Multiple-choice items with alternatives representing judgments appropriate to the love-power-freedom reference frames permit appraisal of value consistency, conflict, or disorganization. Allowing one to three choices per item reveals intolerance of ambiguity in single choices since the abstraction level of questions makes isolated response unrealistically specific. Popular single choices appear indicative of rigid conventionality.

The basic group of 32 items are re-presented to be answered with three different "sets": (*a*) as "others" would wish one to respond, (*b*) in terms of one's characteristic past, and (*c*) with answers which "feel right." The first set appears to sample the subjective appraisal of environmental permissiveness and the individual's estimate of his acceptability to others. In the standardization group, the incidence of love-submission responses is predominant while power-dominance responses increase in successful individuals, and freedom-withdrawal response is ascendant in schizophrenics. Response with set *b* varies with the individual and is apparently close to overt behavior. The healthy-vs.-defensive function of this behavior must be determined by consulting set *a*, and mode of test response (consistency, ambiguity intolerance, etc.).

Validity of these factors was tested by comparing data on the last 100 of 400 normals with data on 25 schizophrenics. The assumptions concerning value

disorganization and interpretation of single choices as intolerance of ambiguity, among others, appear to be supported.

Burgess, George G. *see* Morsh, Joseph E.

Burik, Theodore E. (*Fordham University*) **An investigation of perceptual and interpretative processes of a group of overtly aggressive as contrasted with a group of overtly nonaggressive schizophrenic patients.**

PROBLEM: To ascertain whether expressions of aggression in test responses parallel the overt behavior manifestations of schizophrenic *S*s.

SUBJECTS: Two groups of schizophrenic patients, 40 in each, were selected on the basis of markedly contrasting overt behavior. They were closely equated on a number of variables including the following: age, education, length of illness, schizophrenic reaction type, incidence of convulsive therapy, occupational level, family status, and religious affiliation.

PROCEDURE: The selected individuals were given the following battery of psychological tests: (*a*) The Levy Movement Blots, which involve the perception of human movement, were used to reveal basic personality attitudes and a measure of the degree of projected aggressive content. (*b*) The Rosenzweig Picture Frustration Study with modifications was employed to assess the intensity and predominant direction of aggressive expression and the psychological control which the *S* manifested in his test reactions. (*c*) Specifically designed was the Picture Description Test, consisting of a series of 20 pictures portraying people in a variety of dynamic situations. For each picture multiple-choice items were constructed to appraise the intensity of aggressive expression and the feelings ascribed to the individuals involved in each pictured situation. (*d*) Finally, the Controlled Word Association Test, which affords *S* an alternate choice of an aggressive versus a nonaggressive association, was utilized to measure the relative number of hostile associations selected.

RESULTS: Statistically significant differences were found between the groups. The aggressive *S*s reacted with more frequent and more intense aggressive feelings and tended to turn aggression onto the environment. These differences were complemented by other findings. The aggressives responded with self-assertiveness and a relative lack of control, while, conversely, the nonaggressives reacted with suppressive activity and attempts to evade the expression of aggression or to turn such activity inward.

CONCLUSION: The results suggest that in terms of aggressive expression the test responses of schizophrenic *S*s, within limits, parallel overt behavior manifestations.

Bush, William R. *see* Boynton, Robert M.

Butler, Robert A. (*University of Wisconsin*) **Satiation of responses by rhesus monkeys to visual incentives.**

PROBLEM: To investigate the persistence of responses to visual incentives.

PROCEDURE: Monkeys were tested in an enclosed box 27 by 17 by 26 in. The box was illuminated from within. Two doors, 3¾ by 4 in. and separated by 1½ in., were fastened, flush, to the front of the box. Each door could be locked from the outside. Colored stimulus cards were attached to the inside face of the doors. The position of each card followed an order balanced for frequency. An opaque screen, operated by *E*, separated animals from the stimulus cards.

The *E* raised the screen exposing the cards to the animal. When the monkey pushed the door containing the positive card, the door opened and the animal was allowed 30 sec. for visual exploration of the surrounding environment. When the monkey pushed the door containing the negative card, it contacted a locking device which illuminated a signal light attached to the front of the apparatus. The screen was lowered immediately. The intertrial interval was 30 sec. Correct responses and response latencies were recorded.

Three animals were tested continuously until they either (*a*) failed to respond within 5 min. for 2 successive trials, or (*b*) failed to respond within 5 min. for 3 out of 5 successive trials. Monkeys were fed and given access to water in their home cage before they were tested.

RESULTS: Monkeys no. 167, 159, and 156 performed continuously for 9, 11, and 19 hr., respectively, before reaching criterion for satiation. Number of responses ranged from 325 to 775. Response latencies did not consistently increase or decrease. Monkey no. 156 clearly demonstrated learning. The other animals performed less efficiently.

CONCLUSIONS: It is hypothesized that this extremely persistent behavior is based on a visual-exploration motive which is not conditioned upon any other motivational state. (Slides)

Caldwell, Bettye McDonald *see* Wheeler, John I., Jr.

Capwell, Dora F., & Herzberg, Frederick. (*Psychological Service of Pittsburgh* and *University of Pittsburgh*) **The application of research methods to a personnel study of a small staff group.**

PROBLEM: A description of a pilot study on 33 persons, a total staff group, to illustrate the application of research methods to the study of small groups and to indicate the type of results which can be obtained from such procedures. The study was to aid the staff

division in making more accurate selection of new personnel and developing a more objective method of evaluating personnel performance.

SUBJECTS: 33 staff members of the commercial research division of United States Steel Company.

PROCEDURE: Determined the most critical job requirements by means of a modified critical-incidents procedure, using both the interview and the writing method of obtaining incidents. Constructed a 29-item rating scale based on the job behaviors which emerged from the incident material. The rating scale was used by all supervisors to rate the staff and provided the criterion for correlation with test scores. An experimental test battery was assembled consisting of four aptitude tests, two interest measures, and a temperament survey. The rating scale was analyzed to determine its suitability as a criterion, and tests were then compared with ratings by means of biserial correlations between test scales and each item of the rating scale.

RESULTS: Ten of the 27 test scales correlated with the 29 items on the rating scale proved to have significant validity. Three of the valid scales were temperament measures; the others were ability measures.

CONCLUSIONS: The experimental test battery shows promising validity and merits further study with other groups. The rating scale proved to be a relatively objective method for evaluating personnel performance. The results suggest that the application of personnel research methods can be fruitful in the study of relatively small groups. (Slides)

Carpenter, C. R. *see* McIntyre, C. J.

Carter, Joe T. (*University of Cincinnati*) **Types of personal life memories forgotten following electroconvulsive therapy.** (Sponsor, Milton W. McCullough)

Numerous studies have shown that a relationship exists between the emotional tone of memory materials and the degree to which such memories may later be forgotten; in general, higher proportions of "painful" than of "pleasant" memories are forgotten.

Janis found definite and consistent evidence of forgetting of personal life memories by *Ss* following electric shock therapy, but only negligible forgetting by *Ss* who received no therapy.

The present study sought to answer the question: Does the principle of "selectivity" of forgetting obtain in that forgetting which follows elecric shock treatment?

The procedure consisted of eliciting a large number of personal life memories by interviewing, using a questionnaire. This was done on the day preceding the first of the series of treatments. Approximately four weeks after each patient's last treatment, implicative questioning was used to test his ability to remember the material given previously. Various controls were used to minimize the influence of extraneous variables.

Thirty-five psychotics, the majority of whom were schizophrenic, were used as *Ss*.

RESULTS: (*a*) Janis' finding of consistent evidence of circumscribed amnesias persisting as of four weeks following the last treatment was confirmed. (*b*) As assessed, a significantly greater than chance proportion of each of the following categories was forgotten: guilt, anxiety, shame, feelings of inferiority, evasion, and anger (definitions of each category are given). (*c*) Analysis of grouped categories showed that a significantly greater proportion was forgotten of "unpleasant" than of "indifferent" or "pleasant" memories. No difference was found between proportions forgotten of "indifferent" and "pleasant" memories. (*d*) A significantly greater proportion was forgotten of recent than of remote memories. (*e*) Individuals differ greatly in proportions forgotten following electroconvulsive treatment.

It is concluded that the principle of "selectivity" of forgetting holds true in the case of the forgetting which is found following electroconvulsive therapy. (Slides)

Case, Harry W., Mount, George E., Sanderson, J. Wesley, & Brenner, R. (*Institute of Transportation and Traffic Engineering, University of California, Los Angeles*) **Distance judgment of colored objects.**

A study was conducted to investigate the direction and magnitude of effect of color on judgments of relative distance in outdoor situations. The experimental site was a large, recently graded area with a tan dirt bank approximately 200 feet beyond the farthest stimulus used in the distance judgments. Eight comparison cards were used, including a highly saturated red, green, yellow, and blue; and four grays, each matched in brightness to one of the four hues. Two standards were used, either a high-bright or medium-bright card. The standard was located 200 feet from *Ss*. A comparison was placed at one of eight different distances from 192 to 220 feet from *S*. Each of 168 *Ss* made 128 judgments as to which was closer, the standard or the comparison. Half of the *Ss* made their judgments against the high-bright gray standard and half against the medium-bright gray standard. The judgments were processed to show the effect of differences in the two standards used, the effect of the differences between hues, and the effect of differences in brightness of the four gray comparisons.

All comparisons were seen in front of the darker standard more often than in front of the brighter standard. Similarly, each hue was seen in front of its

matching gray. The effect of brightness in the experiment appears to depend in part upon a contrast relationship to the background. Comparison grays of high and low brightness were consistently seen in front of the two medium brightness comparison grays, suggesting that objects only slightly discernible from their background will be judged at a position of nearer coincidence with the background than more greatly contrasting objects.

Cattell, Raymond B. *see* Baggaley, Andrew R., and Stice, Glen F.

Cayne, Bernard S. *see* Johnson, A. Pemberton

Chall, Jeanne. (*The City College of New York*) **Readability: an appraisal of application.**

Readability measurement has been used mainly as a practical tool to predict and control the difficulty of reading materials. It has also been used as a research tool to ascertain the suitability of representative materials for intended readers.

The first readability appraisals were in education and it was found that textbooks written for specific grades varied widely in difficulty, and that most of them were probably too difficult for the intended readers.

The findings from these studies were no doubt used by authors and publishers. Recently published textbooks tend to be easier according to various readability measures. There is insufficient experimental evidence, however, as to whether textbooks are now suitable for the majority of pupils.

In adult education, readability data have been used to locate and develop materials for adults of limited and average ability. In spite of several organized efforts, there is still need for simple adult materials and for knowledge about how to write such materials.

Since the middle 1940's, readability appraisals have been made of government publications, newspapers, advertising copy, industrial communications, and opinion poll questionnaires. The results indicated that the writing was often too difficult for the majority of the intended readers. Considerable revision of materials was undertaken.

The following suggestions are offered to help put readability measurement on a more realistic plane: (*a*) Readability formulas should be used more critically. Too often users lose sight of the fact that formulas are only first approximations of difficulty. (*b*) Readability formulas as prescriptions for writing should be approached with caution since they barely touch on conceptual difficulties, idea density, and organization. (*c*) Studies are needed to show effects on comprehension of changes affected by typical readability campaigns in journalism and industry. (*d*) Studies on textbooks are needed to determine the validity of grade level predictions from various formulas. (*e*) There is a need for better exchange of results of readability appraisals.

Chambers, Randall M. (*Western Reserve University*) **The effects of ergotoxine ethanesulfonate on audiogenic seizure sensitivity**

PROBLEM: The primary purpose of the present investigation was to find whether any change in audiogenic seizure sensitivity occurs in rats after repeated administrations of ergotoxine ethanesulfonate. Secondary problems were concerned with the following: (*a*) the relationship between seizure sensitivity and various types of otitis media; (*b*) whether ergotoxine ethanesulfonate produces proptosis of the tympanic membrane; and (*c*) whether rats with proptosed membranes show seizure sensitivity.

PROCEDURE: 26 albino rats which had previously convulsed in at least 8 out of 10 air-whistle trials were paired into 2 groups. The experimental group was given 10 ergotoxine-ethanesulfonate treatments and tested for seizure sensitivity over a period of 30 days, and the matched control group was treated similarly, except that physiological saline solution was used instead of the ergotoxine. After estimates of proptosis were made, all animals were autopsied. Middle-ear conditions were diagnosed as secretory, suppurative, or normal. The same procedures for testing, treating, and autopsying an additional group of 12 albino rats, which had shown nondirected running in 8 out of 10 previous air-whistle trials, also were used.

RESULTS: Rats sensitive to audiogenic seizures became insensitive after 10 treatments with ergotoxine ($p = .001$). A relationship between audiogenic seizure sensitivity and secretory otitis media was observed in the control group, but not in the experimental. There were suggestions that ergotoxine ethanesulfonate produces proptosis of the tympanic membrane. CONCLUSIONS: The results seemed to support the pain-threshold reduction hypothesis of Marx and Jurko. Byrne's theory of the inhibition effects of ergotoxine ethanesulfonate was in part supported. The data suggest that proptosing centers may be of primary importance in the adjustment of the ear mechanisms to noxious auditory stimuli. (Slides)

Chandler, Albert R. (*Philosophy Department, Ohio State University*) **The psychology of aging in recent fiction.**

The depiction of the aging process in four novels is discussed. The novels are: *There Were No Windows*, by Norah Hoult; *The Journey of Simon McKeever*, by Albert Maltz; *Mr. Skeffington*, by Elizabeth (pseudonym); *The Loved and Envied*, by Enid Bagnold. Such literary depictions are not a substitute for scientific psychology, yet they may benefit the

professional psychologist by enhancing his rapport with older people and deepening his sympathy with them in their efforts to solve their problems.

Chapanis, Alphonse. (*Bell Telephone Laboratories, Murray Hill, New Jersey*) **Random-number guessing behavior.**

PROBLEM: How random can *S*s be when they are instructed to write out long sequences of numbers in a random order?

SUBJECTS: 7 sophisticated and 6 relatively unsophisticated *S*s. The former had had formal education in higher mathematics, statistics, and the theory of probability, and had used tables of random numbers; the latter had no such experience.

PROCEDURE: *S*s were instructed to write the digits 0 to 9 in a random order. Randomness was defined, in an elementary way, by a set of written instructions. One sophisticated *S* wrote 3,135 digits; the other 12 *S*s each wrote 2,520 digits. *S*s wrote out the entire sequence in one sitting, with no interruptions, but were allowed to set their own pace. The task required from 1 to 1½ hr.

RESULTS: 1. With but one exception, *S*s exhibited marked preferences for certain digits, but there is little agreement among *S*s in their preferences.

2. Repetitive pairs and triplets, e.g., 000, 111, 222, 110, 113, 101, 131, are generally avoided, and many such sequences were never used by any unsophisticated *S*. Preferred sequences usually are made up of digits all of which are different, e.g., 653, 231, 985, etc. Decreasing sequences, e.g., 987, 876, 765, 654, are highly preferred but increasing sequences, e.g., 456, 567, 678, are not. Sequences of 6, 7, and 8 digits are sometimes repeated by individual *S*s but such repetitions are usually widely separated.

3. Auto-correlation functions showing the relationship between the N'th and N + X'th digits are generally significant for digits separated by as many as four intermediate digits, and random for greater separations.

4. In all of the above respects sophisticated *S*s were more nearly random than the unsophisticated ones.

This experiment was done in The Johns Hopkins University under Contract N5-ori-166, Task Order I, with the Office of Naval Research. (Slides)

Christensen, P. R., Wilson, R. C., & Guilford, J. P. (*University of Southern California*) **Temporal aspects of inventive responses.**

With open-end tests that required the production of appropriate responses for a restricted time period, the total number of responses listed is uniformly taken as the index of a "fluency" ability. This simply-derived score, however, is not an unmixed measure of any single ability. Evidence of its complexity can be found by factor analysis of this score with scores from other tests. Further insight as to what goes into this summation score can be gained by analyzing measurable attributes of the responses themselves in their relation to temporal and sequential aspects of the production period.

Certain attributes of responses have been related to indices of time in several studies by Bousefield, Johnson, and their co-workers. Using tests that emphasize simple recall they found that the number of responses produced was relatively large at first but decreased gradually during the time period. In the present study it was hypothesized that for tests that emphasize inventiveness rather than simple recall the production curve would be relatively linear.

Several creative-thinking tests, including "Plot Titles," "Brick Uses," "Consequences," and "Impossibilities," were administered to groups of aviation cadets and college students. Responses were analyzed for rate of production by 2-minute time periods up to 16 minutes. The obtained production curves for the creative-thinking tests were more linear than the production curves for the simple recall tests used by Bousefield and Johnson. Comparison of the degree of inventiveness required among the creative-thinking tests and degree of linearity of their production curves also indicated a positive relationship.

Results are presented concerning the interplay between inventiveness and fluency which was studied by relating originality of response (as measured by three different scoring methods: cleverness, remoteness, and uncommonness) and time or sequence of response during the production period. (Slides)

Clark, Carl A. *see* Levitt, Eugene E.

Clark, Jerry H. (*University of California, Santa Barbara*), **& Danielson, Jack R.** (U. S. Army *Hospital, Fort Ord*) **A personality inventory for induction screening.**

PROBLEM: To design a psychiatric screening test for use at induction stations.

PROCEDURE: The Fort Ord Inventory included the following scales: Delinquency, Fake Bad, Neurotic, Femininity, Psychotic, and "stop" items dealing with homosexuality, nervous breakdown, epilepsy, and bed-wetting. The final form after item analyses included 100 items.

CRITERION: Completion of basic training.

SUBJECTS: 20,000 inductees tested one or two days after induction, allowed to continue basic regardless of test scores.

VALIDATING GROUPS: I. Good adjustment: (*a*) S-1,, completed basic without psychiatric referral; (*b*) leaders, in an advanced course, qualification for which was determined by basic training performance. II.

Poor adjustment groups: (*a*) S-4, so severely emotionally disturbed as to warrant recommendation for discharge; (*b*) S-3, moderately disturbed, not recommended for discharge; (*c*) S-2, mildly disturbed, sent back to duty; (*d*) AWOL recidivists.

With the S-1 group as a base, *t*'s were computed on the differences between the means for all groups; all but 6 of 20 *t*'s were significant at the 1% level. Leaders scored consistently lower on all scales and all poor adjustment groups consistently higher; all scales differentiated the S-3 and S-4 groups at the 1% level. The Delinquency Scale was particularly effective in screening AWOL recidivists. By using various cutting points plus "stop" items, it was possible to detect 63% of the S-4, 45% of the S-3, and 51% of the S-2 groups, while selecting 15% of the S-1. The number detected in each psychiatric diagnosis is also presented.

SUMMARY: The Fort Ord Inventory, a psychiatric screening test, is short, readily understood, quickly scored, easily interpreted; it screens for the major types of emotional abnormalities and discriminates effectively in the group for which it was designed. Finally, it is performance validated, using a tangible and objective criterion. (Slides)

Clark, Rodney A. (*Army Field Forces, Human Research Unit No. 2*) **Analyzing the group structures of combat rifle squads.**

In the winter of 1952–53 an Army Field Forces Human Research team studied 81 rifle squads on the front line in Korea in an effort to discover factors which differentiate squads effective in combat from squads which function less effectively. The investigation proceeded upon the hypothesis that the differentiating factors would lie in the processes of group interaction. The study required a method for making objective comparisons between kinds of interpersonal relationships and other performances. At the same time it seemed impractical, under combat circumstances, to collect information about group interaction by direct observation. The paper explains how data about combat groups were collected by means of a sociometric instrument and organized by sociographic analysis.

Ten sociometric items were employed. Although each question was suggested by Korean returnees and pretested before the front-line study, the items were not equally effective in eliciting data. The 10-item questionnaire proved too long. Suggestions for an improved sociometric questionnaire are discussed.

The sociographs objectively arrange *S*s' sociometric nominations in matrices. The relationships of each soldier to his platoon as a group, to his squad, to any other subgrouping in the platoon, as well as to each other rifleman in his platoon, are pictured. In addition, the sociographs yield scores which approximate the peer status of each soldier in regard to the 10 items from the questionnaire.

Various group structures are described. Positions of individuals in the structure are pointed out, and the sociographic scores of these men are compared to interview data to show how closely the objectively derived estimations of status agree with the social relationships described by the interviewees.

While time-consuming, sociographic analysis is shown to be a valid method for analyzing group processes without the necessity of direct observation of the groups in action.

Cloonan, T. F., Forgays, D. G., & Spilka, B. (*Combat Crew Training Research Laboratory, HRRC, Randolph AFB*) **Group effectiveness in bomber crews: analysis of in-flight procedures as a criterion source.** (Sponsor, D. G. Forgays)

PROBLEM: Studies concerned with the effectiveness of bomber crews indicate that end-product measures, such as bomb scores, are not sufficiently reliable to be used to evaluate adequately the performance of these crews. As yet the sequences of events leading to the end products, as a potential criterion source, have been dealt with only infrequently and mainly through the use of subjective reports of the occurrence of the concerned behaviors. One method for obtaining objective evidence of the various behaviors which take place in a bomber crew during a bomb run, for example, is to obtain an interphone recording of all the intercommunications which occur at the time. To obtain evidence concerning the utility for criterion purposes of behavior sequences occurring before the end product, the present study of in-flight procedures in bomber crews, employing interphone recordings for their identification, was undertaken.

SUBJECTS: Approximately 50 B-29 crews which received combat crew training at Randolph Air Force Base, Texas, during 1952.

PROCEDURE: Recordings of interphone communications occurring during typical training flights were obtained. Employing these interphone protocols, interpreted on the basis of a previously accomplished activity analysis of crew operations during flight, the attempt was made to identify procedures occurring during the radar bombing portions of the missions. Once identified, several procedural-index scores, based on the total number of such procedures occurring, their sequence, and so on, were calculated. Procedural-index scores were then related to external criterion measures including bomb scores, navigational accuracy scores, and instructor ratings.

RESULTS: Reliability studies indicate that various of the procedural-index scores, as well as the actual oc-

currence of procedures, are sufficiently reliable to be useful for research purposes. Significant relationships were found between various of the procedural-index scores and external criterion measures.

CONCLUSIONS: The obtained results support the view that adequate criterion analysis should be concerned not only with the obvious end products of the performance of a group, but as well with the sequence of events constituting that performance and leading to the end products. (Slides)

Cobb, Henry V. (*University of South Dakota*) **A study of wishes of children and adolescents.**

One approach to the study of values is through the medium of verbalized wishes. This paper reports a pilot application of a method of securing and classifying representative samples of wishes by children and adolescents.

Wish samples were obtained from approximately 1,900 public school pupils from the fourth through the twelfth grades in two towns in South Dakota. Comparable *N*'s for male and female *S*s in three grade-groups (elementary, junior high, high school) were used.

A sheet containing 24 open-ended statements directed towards salient personal and interpersonal areas of experience was completed anonymously by the *S*s under the direction of their own previously instructed classroom teachers. These statements were in the form: "I wish I were . . ." (Item 1), "I wish my mother did not . . ." (Item 9), "I wish more than *anything* that . . ." (Item 24). In order to maintain strict anonymity, supplementary data identified only the sex, age, grade, and school of the respondent.

Primary analysis of the obtained material consisted in a classification of wishes with respect to content, item by item, allowing each item to develop its own content categories. This was followed by an analysis of frequency distributions and comparison of sex and grade-groups. Further steps in analysis with respect to form and pattern are indicated.

Teachers' reports on the children's attitudes towards the task, together with internal evidence, support the validity of the responses. In content, the wishes showed great diversity both within and between items, but relatively high correlation between sex and grade groups in the frequencies of both gross and subcategories. On specific categories, highly significant frequency differences between both sex and grade groups were found.

The method employed in this study to investigate children's wishes appears to be valid and to yield significant results in terms of class frequencies for the populations sampled. Suggestions for the refinement and extension of the method are noted.

Cohen, Arthur R. (*University of Michigan*) **Situational structure and individual self-esteem as determinants of power-threat.**

PROBLEM: An interpersonal situation where power was exercised over an individual and in which he was ego-involved was assumed to lead to threat-oriented behavior on that individual's part. The actual degree of threat experienced was hypothesized to be a function of the interrelationship between (*a*) level of self-esteem and (*b*) degree of structuredness of the situation: the lower the self-esteem and the less the structure, the more threat. Two corollary hypotheses dealing with structure alone and self-esteem alone were also specified.

SUBJECTS: 198 telephone operators were designated low-power persons. Since we used a trained assistant as the power figure in all conditions this made 198 experimental groups.

PROCEDURE: The power of the power figure over *S*'s goal-attainment and *S*'s ego-involvement were kept uniformly high. Self-esteem and structure were allowed to vary. Self-esteem was measured by a modified *Q* sort. On the basis of self-esteem designations, *S*s were assigned to different structure conditions. Structure was created by clarity-unclarity of *S*'s task, and by consistency-inconsistency of the power figure's behavior. Threat was measured by responses concerning a range of concomitants and effects of threat: attraction, security, anxiety, aggression, time on task, resultant motivation, self-perceptions, and perceptions of the power figure.

RESULTS AND CONCLUSIONS: When self-esteem and structure operate together in complementary fashion, they affect the relationship between power and threat as predicted: low self-esteem and little structure lead to more threat in a power-laden situation than high self-esteem and high structure. When working alone, while structure is quite effective, self-esteem is somewhat less so. In structured situations, self-esteem linearly determines threat. But in unstructured situations, different self-esteem groups handle power differently and become more or less threatened along different dimensions. High self-esteem people tend to repudiate the situation, while lows are more dependent upon it.

Cohen, Jacob, & Feigenbaum, Louis. (*Bronx VA Hospital and College of the City of New York*) **The assumption of additivity on the Szondi Test.**

PROBLEM: Scoring on the Szondi proceeds by adding separately the likes and dislikes of photographs of each factor. Adding of item scores is a psychometrically valid procedure only when the elements added are positively intercorrelated. Thus, the assumption of positive intercorrelations among the photographs comprising a factor is implicit in Szondi scoring. The

purpose of the present study was to determine whether the responses of *Ss* are significantly correlated among the six photographs within each factor, i.e., whether Szondi scoring satisfies the above assumption.

SUBJECTS: 200 hospitalized male veteran neuropsychiatric patients with diversified diagnoses.

PROCEDURE: The results of initial Szondi records were cast into contingency tables for each pair of photographs within a factor. Since there are six photographs per factor, this led to 15 tables for each factor, 120 tables in all. The tables were 3×3, and reflected the three response possibilities: like, dislike, and not chosen. Thus, for example, one of the 120 tables reflected the relationship between response to the sadist on the third set with the response to the sadist on the sixth set. For each contingency table, chi square was computed.

RESULTS: Of the 120 relationships investigated, 25 were significant at or beyond the .05 level. Six of these 25 were not clearly positive. The *h* and *m* factors contributed 13 of the 25.

CONCLUSIONS: Although there is some nonchance correlation within each factor, the assumption of additivity is highly questionable for at least six of the eight factors of the Szondi as presently constituted. By purging each factor of the three least correlated pictures, a revised Szondi for which this assumption is more readily tenable is proposed.

Cohen, Jerome, & Senders, Virginia L. (*Antioch College*) **Information transmitted as a function of repeated exposures in scale reading.**

PROBLEM: A scale reading is partially determined by the pointer setting at the time and partially by previous settings and the readers' responses to them. The experiment lays the groundwork for a series of studies which will investigate scale reading as a function of the sequence of prior settings and the resultant sequence of prior responses. The paper analyzes the response sequences in the limiting case in which the same stimulus is exposed repeatedly. The experimental variables are the exposure number, the number of graduations on the scale, and the duration of the exposures.

SUBJECTS: Five groups of 20 students who met visual requirements served as the hundred *Ss*.

PROCEDURE: Each group of *Ss* was presented with tachistoscopically projected linear scales for one of five durations of exposure: 0.10, 0.285, 0.50, 0.775, and 1.00 seconds. After each exposure, *Ss* recorded their responses on IBM "mark-sense" cards. They were given 50 exposure series consisting of 10 settings on each of 5 different scales. The scales were drawn with 0, 1, 9, 19, or 99 graduation marks. The slide was the same for 10 repeated exposures in each series.

RESULTS: The data were analyzed to determine the amount of information transmitted by each scale, the gain in transmission resulting from repeated exposures, and the information transmitted from the *Ss*' prior responses.

Results indicate that information transmission increases to a maximum with fewer exposures as exposure time is increased. Increasing the exposure time and the number of graduations increases the dependence of the readings on the scale setting. Increase in information transmitted from the current stimulus results in a smaller contribution from the previous responses. All the experimental variables were significant contributions to the total variance as determined by a mean square error analysis. (Slides)

Cohn, Thomas S. (*Wayne University*) **The relation of the F scale to a response to answer positively.**

PROBLEM: The tendency to endorse items on a scale independently of the content of the items is termed a response set. This response set is more likely to appear when the scale items are ambiguous. The Predisposition to Fascism (F) scale, which presumably measures authoritarian submission, is composed of 30 relatively ambiguous clichés. Therefore, it was hypothesized that the F scale would be directly related to a measure of a response set to answer positively.

SUBJECTS AND PROCEDURE: To develop a measure of response set to answer positively, the MMPI, which is composed of a large number of ambiguous items, was administered to 133 *Ss*, and then item analyzed. The extreme groups were those answering the most "trues" and those answering the least "trues." Thirty-three of the items that differentiated were administered to another group of 59 *Ss*, along with the F scale.

RESULTS: The resulting correlation was .41 (significant at the 1% level). The 33 items were then submitted to two clinicians who were in agreement that no particular personality syndrome was being tapped by the item content. This finding was corroborated when the items were checked against the clinical scoring cards of the MMPI. Apparently, the F scale is related to 33 ambiguous items that are as likely to be answered true as false.

CONCLUSION: The explanation is offered that the F scale may be measuring behavior termed authoritarian submission, not necessarily because of the meaning of the items to the *Ss*, but because individuals who tend to respond positively in an ambiguous situation are submissive. (Slides)

Collier, George H. (*Duke University*) **Intertrial association at the visual threshold as a function of intertrial interval.**

Recent experiments show that successive responses to a repeated, invariant, simple visual stimulus are not statistically independent. The probability of a "yes" (or a "no") on any trial is associated with the response on the preceding trial or trials, resulting in runs of "yes" and "no" responses. Two kinds of association are possible. In the first kind the P_R (probability of response) shifts from trial to trial as a function of some factor independent of the outcome of the preceding trial or trials, while in the second kind the shift in probability is some direct function of the outcome of the preceding trial or trials. The present experiment attempts to decide between the two alternatives by determining the relation between the amount of association and the length of the intertrial interval. If the independent factor of the first kind of association varies cyclically, the function relating intertrial interval and amount of association would, itself, be cyclic; while if the factor varies in an irregular fashion, the function would be unsystematic. The first of two possibilities, with the second kind of association, is that, while the P_R is related to the outcome of the preceding trials, the effect of the preceding responses is not influenced by the lapse of time. The second possibility is that the increment (or decrement) in P_R added by the preceding trial or trials to the P_R on any trial is a decreasing (or increasing) function of the length of time between successive responses. In this case the amount of association should be a decreasing (increasing) function of the intertrial interval.

Six trained *S*s were run on a Hecht-Shlaer adaptometer for 7 days, using a single-brightness method of stimulus presentation. Intertrial intervals of 2, 3, 4, 6, 9, 12, and 30 sec. were used. It was found that the percentage of "yes" responses was independent of intertrial interval, while the amount of association was a monotonically decreasing function of intertrial interval. Thus, it seems likely that the P_R on any trial is in part a function of the outcome of the preceding trial or trials. (Slides)

Collier, Raymond O., Jr. *see* Hoyt, Cyril J.

Colmen, Joseph G. (*Civilian Personnel Branch, USAF*) **A civilian supervisory selection battery for the Air Force.**

PURPOSE: To develop valid selection techniques for supervisors within a federal agency, based on the hypothesis that a series of behavioral components exist which can be operationally defined and perceptually described as supervisory ability, and that this ability can be measured by appropriate scales.

DEFINITION OF SUPERVISOR: To be included in the sample supervisors must have supervised for at least a month, at least three persons engaged in work in which they (the supervisors) were technically proficient and must have met certain other supervision level criteria.

SAMPLE: The experimental sample included 467 employed supervisors meeting the above criteria from Hill and Tinker Air Force Bases. In spite of geographical differences in the bases, the mean age and educational levels were not significantly different from each other.

CRITERION: Ratings collected from both subordinates and superiors were later combined and found to have acceptable reliability. Comparison of the obtained distributions of ratings of both superiors and subordinates with expected theoretical frequencies revealed a most satisfactory distribution and range.

EXPERIMENTAL BATTERY: The tests selected for trial use included a Supervisory Judgment test, several varieties of tests designed to assess personality characteristics, Pattern Matching, Number Facility, and the Street-Gestalt Test.

DATA ANALYSIS: To provide for samples to be used as checks on results obtained, the total sample from both bases was divided randomly into three groups: one for keying the "personality" tests; one for checking the key and developing a battery; and the last for checking the battery. In keying the tests, both an empirical and an "unconventional" key, with two standards applied to each were used.

CONCLUSIONS: There appears to be a series of behavioral components subject to operational definition and perceptual description known as supervisory ability. This is attested to by the ability of raters to agree about the qualities of supervisors apart from their technical competence. That this ability can be measured by appropriate scales is likewise true as indicated by the ability of the tests finally selected to predict the raters' evaluation with a correlation significant at the 1% level of confidence.

Conway, Kathryn L. *see* Souerwine, Andrew H.

Cook, John Oliver *see* Kendler, Tracy S.

Cooper, Max. (*VA Hospital, Northport, New York, and Montefiore Hospital, Bronx*) **An evaluation of Rorschach patterns in headache patients.**

PROBLEM: The relationship between personality patterns and somatic symptoms continues to arouse considerable controversy and discussion. This study represents an attempt to shed light on the problem as related to patients with diagnoses of headache conditions of various types.

SUBJECTS: Approximately 75 patients, male and female, ranging in age from 20 to 55 years, treated at the outpatient headache clinics of the Montefiore Hospital and at the Veterans Administration Regional Office, Brooklyn, N. Y. constituted the population of the study. Three major diagnostic categories were included, migraine, tension headache, and posttraumatic headache.

PROCEDURE: Rorschach protocols were obtained for each patient in the group and were evaluated both quantitatively and qualitatively to determine whether specific patterns or trends could be elicited. The patterns and trends were then evaluated for statistical significance and for possible intergroup relationships.

RESULTS: Statistically significant patterns or trends were not found for any of the three groups or for the entire population. Certain trends were noted and are discussed in terms of personality theory and dynamics. For example, intellectual levels were above average in all three groups; considerable evidence pointed toward rigid repression and suppression of feeling; indications were also found for preoccupation with health and disease. No statistically significant relationships, however, could be found among the groups with reference to these trends.

CONCLUSIONS: Patients under treatment for various types of headache conditions do not exhibit specific patterns on the Rorschach test. Although certain trends were noted, these could not be demonstrated to be statistically significant for the entire patient population or among the three diagnostic categories. Implications for therapy and various forms of psychotherapy are discussed.

Coppock, H. W., Headlee, C. P., & Hood, W. R. (*University of Oklahoma*) **Negative reinforcing effects of insulin injections.** (Sponsor, H. W. Coppock)

PROBLEM: Do abrupt decreases in blood-sugar level, which are presumably associated with increases in hunger drive, have negatively reinforcing properties? Will a hungry rat learn to avoid a posture which produces a flow of insulin into his abdominal cavity?

PROCEDURE: 60 four-day fasted rats were restrained in automatic conditioning apparatus and a hypodermic needle was inserted intraperitoneally. After 10 min. of adaptation, clicking and blinking stimuli were presented while either 20% glucose, 1.8 units/cc. insulin in saline, or saline solution was pumped in at the rate of .1 cc. per min., as long as the rat's head was on the preferred side. There were three such primary-reinforcement periods; data from periods subsequent to these have been reported elsewhere.

RESULTS: Mean log duration on the reinforced (nonpreferred) side changed differently in the various groups from the adaptation to the last primary-reinforcement period ($p = .002$ by analysis of variance), changes being -12, -27, and -58 in the glucose, saline, and insulin groups, respectively.

Changes in mean log duration on the other, nonreinforced, side are not significantly different between the groups, being -18, -24, and 4, respectively. In these and other measures of responsiveness the insulin group deviates considerably from the other two groups, although differences between glucose and saline groups are generally nonsignificant but in the same direction as in the previous experiment in which 10% glucose was intravenously injected.

CONCLUSION: Results indicate that insulin injections had a significant negatively reinforcing effect. The need for further corroboration is indicated, also further research on the more general questions of the particular time and locus of the reinforcing events.

Counts, Sarah. (*Association of American Medical Colleges, Chicago*) **A factor analysis of pretherapy self-descriptions.**

PROBLEM: This study investigated by means of *Q* sort and factor analysis the self-descriptions of a group of individuals in an attempt to define personality types of individuals seeking therapy.

SUBJECTS: 27 individuals in Research Block I of the Counseling Center at the University of Chicago.

PROCEDURE: A factor analysis was performed on the *Q*-sort self-descriptions sorted at the time these clients entered therapy. Eleven factors were extracted and rotated to simple structure. Interpretations of these factors were developed from two sets of data: (*a*) the *Q*-sort self-descriptions and (*b*) other data including test results, personal history information, and counselor ratings. An artificial or average sort was developed for each of the factors from the first set of data. The second set of data was studied to determine whether the grouping of individuals arrived at by the factor analysis was related to these additional data.

RESULTS: Interpretations of the factors integrating both sets of data will be presented.

Crockett, Walter H. (*University of Michigan*) **Cognitive and affective factors associated with attitude change.**

"Attitude" is defined as a cognitive-affective orientation regarding some object. The cognitive component is viewed as a set of expectations about the object, accompanied by varying degrees of affect. Attitude change should result from modification of the affect or of the expectations.

Hypotheses tested were: (*a*) *S*s who perceive that they deviate from an attractive group will modify their attitude toward the group norm. Change will be greatest for *S*s who are given a supporting ra-

tionale for the norm. (*b*) There will be a negative relationship between cognitive elaboration and attitude change. (*c*) There will be a negative relationship between amount of affect and attitude change.

Experimental manipulations were: Students in eight classes were asked to indicate their position regarding segregation. Measures were obtained of the number of expectations related to segregation, of the amount of associated affect, and of the attractiveness of the group.

A month later each class was divided into three groups: a control group again indicated their position without experimental influence; a norm-presentation group indicated their position after being told of an antisegregation norm; and a counterargument group indicated their position after being told the norm plus a feedback of reasons supporting the norm.

Results were: 1. Change was greatest among *Ss* who were given not only the norm, but also a supporting rationale for the norm.

2. The hypotheses regarding the effect of cognitive elaboration and affect were confirmed in specific experimental variations. Cognitive factors predicted change in the control group, but not in other variations. Affective factors predicted change in the counterargument group, but not in other variations. It is suggested that the arguments led to a defensive reaction among *Ss* with high initial affect. When a defensive reaction was not present, as in the control group, the cognitive factors predicted best.

Crutchfield, Richard S. (*University of California, Berkeley*) **Correlates of individual behavior in a controlled group situation.**

This experimental study falls at the boundary of problems of personality assessment and problems of group behavior. The aim is to construct an artificial group situation, evoking individual differences of behavior which can be isolated, measured, and related to personal characteristics of the individuals.

Groups of five *Ss* play a game of "Bingo" with a group goal for all five to attain Bingos by requesting and trading numbers. Group communication is indirect and—unknown to the *Ss*—manipulated by the experimenter so that the situation for each person in the group is kept comparable.

After each person attains a Bingo, pressure is exerted to break it by requesting one of his key numbers. A quantitative measure of readiness to yield to the pressure is readily obtained, along with several other measures of behavior in this conflict situation.

Sixty female and 49 male *Ss* were tested in this Bingo situation. Various personality measures were obtained for each. A representative finding is that impulsivity (as measured by a standard personality scale) is markedly related to behavior in the group situation, those breaking Bingos earlier being substantially higher in impulsivity. Equally significant relationships are noted with such variables as dominance, spontaneity, flexibility, femininity, independence of judgment, etc.

Intellectual competence tends to show a curvilinear relationship, those higher in intellectual competence breaking the Bingo neither too quickly nor too slowly.

Marked differences in self-perception, based on analysis of adjective checklists, are found for those who break Bingos at different stages.

A further study of 100 Air Force captains using the same group problem extends the above findings considerably through the availability of a manifold of personality measures derived from a six-day assessment and testing program.

Findings support the usefulness of this kind of approach in the analysis of group behavior.

D'Amato, M. R. (*New York University*) **Drive shift and secondary reinforcement.** (Sponsor, H. H. Kendler)

PROBLEM: To determine whether a secondary reinforcing stimulus developed during thirst motivation will transfer to the hunger drive when the T maze is used as the test situation.

SUBJECTS: 20 experimentally naive, male albino rats, 45–60 days of age.

PROCEDURE: The control and experimental groups received 8 trials per day for 5 days on a short straightaway formed by the arms of a small T maze, the stem of the maze being blocked during this period. All *Ss* were 22 hr. thirsty. On the rewarded trials, *S* was permitted to drink for 30 sec.; of the 40 trials, 24 were rewarded and 16 were nonrewarded. The goal box was similar to the starting box, except that the former had white markings (striped). The position of the goal box (striped) alternated between the right and left arms of the maze, so that *S* ran right-to-left and left-to-right equally often. On the day subsequent to the termination of training, the control group, 23 hr. thirsty, and the experimental group, 26 hr. *hungry*, were tested on the T maze (Test I), the stem block having been removed. Fifteen trials were given to the control group, but since some of the experimental *Ss* could not be induced to run beyond Trial 12, only the results of the first 12 trials are considered. On the following day the experimental group was retested (Test II), conditions being similar to those of Test I with the exception that the animals were now 23 hr. thirsty.

RESULTS: During Test I the experimental group (under hunger motivation) averaged 5.60 responses to the previously reinforced end box, very close to chance expectancy (6.0). The control group, however (under thirst motivation), had a mean of 9.10

responses to the striped end box, a performance significantly better than chance and significantly superior to that of the experimental group. During Test II, the experimental group, now 23 hr. thirsty, chose the striped end box with a mean frequency of 9.89; the latter figure is significantly larger than either chance expectancy or this same group's performance on Test I. The results are related to Estes' findings, and their significance for the drive-reduction theory of secondary reinforcement is discussed.

Damrin, Dora E. (*University of Illinois*) **An empirical study of characteristics of the problem-solving process.**

The majority of studies concerned with problem solving are based upon the end product of this phenomenon rather than on the process through which this end product is attained. The present investigation describes the application of a recently invented technique of measurement, the Tab Test, to the study of certain definitive characteristics of the problem-solving process.

A 20-item Tab Test was administered to a sample of 77 in-service radar mechanics. Each item consisted of a "trouble-shooting" problem (e.g., a problem demanding diagnostic reasoning) on a highly complex piece of electronic equipment. Obtained patterns of problem-solving behavior were plotted on especially designed Pattern Diagrams, and these were logically analyzed for behaviors which were consistent over items and statistically independent of each other.

A description of the Tab Test technique, the behavior scales which were derived, and the statistical properties of these scales will be presented.

The conclusion was reached that the Tab Test is a reliable technique for obtaining information about particular aspects of the mental processes active during the solution of problems of the diagnostic type.

Daniels, Harry W. (*Richardson, Bellows, Henry & Co., Inc., New York*) **The development of criteria of safe operation for groups.**

In a study designed to measure the relationship of various management aspects to the safeness of operation of Army motor vehicle units, the problem of acceptable criteria was envisioned as one of measuring group effectiveness in safeness of operation. Previous studies were not concerned with the relative safeness of operation of the group *as a whole;* previous criteria were usually accident rates or road tests. In this study, ratings and rankings provided the first measures of group safety effectiveness.

A check on the criterion was made by means of group interviews in which each vehicle was discussed by the maintenance personnel of the unit. The numbers of damages reported in these interviews, when related to the previous ratings and rankings, proved to be a substantiation of the ability of the raters to make valid judgments about the relative safeness of operation of the units.

The criterion groups finally selected were 16 motor vehicle units placed by the rating officers at the "high" end of a hypothetical safety continuum, and 16 units placed at the "low" end, from a total of 93 rated units. The high and low groups were comparable in missions, kinds and numbers of vehicles, numbers of drivers, and conditions encountered. The importance of the relationship of actual damages to the placement of these units as "high" or "low" is stressed.

Danielson, Jack R. *see* Clark, Jerry H.

Danskin, David G., & Robinson, Francis P. (*Ohio State University*) **Characteristic techniques of experienced counselors differing in viewpoint.**

The literature on counseling often gives the impression that counselors differing in theoretical viewpoint are at extreme opposites in techniques used. Also institutions often assume that their own conferences represent a typical sample of student problems and of counseling techniques.

To test these assumptions, 260 transcribed interviews from five universities were analyzed. Included are interviews with 81 clients by 34 experienced counselors many of whom differ in viewpoint. Since degree of lead is a particularly sensitive measure of differences in counseling viewpoint, two measures of lead were used in this study: average degree of lead and the variability of lead. The degree to which a counselor's remark leads usually depends on two characteristics: (*a*) how far the content of the counselor's remark seems to be ahead of the content of the client's last remark and (*b*) the degree of pressure or definiteness in the counselor's remark used to bring about client acceptance of the expressed idea.

The degree of lead of each counselor remark was rated independently by two judges and the mean lead and the standard deviation of lead were determined for each discussion topic in the interviews. Data are presented for each counselor showing his range and the median value on these measures.

The results show that, while there are real differences in counseling techniques which arise from the learning theory held, the counselors in practice actually range themselves along a continuum. Also, the pattern of counselor techniques used at the five university counseling centers tends to differ somewhat. This would indicate the need to use a wider sampling of interviews in research studies.

Daston, Paul G. (*VA Hospital, Fort Custer, Michigan*) **Perception of homosexual words in paranoid schizophrenia.**

The study was undertaken to investigate the relationship postulated in psychoanalytic theory between paranoid schizophrenia and homosexual impulses. Orientation for the study was derived from psychoanalytic theory and research in the area of selective perception.

Time required for correct recognition of various classes of tachistoscopically presented words was used as a measure, previous research having indicated that stimuli pertaining to areas of individual concern are recognized more rapidly than "neutral" stimuli.

It was held that motivational variables were involved in the determination of areas of individual concern, and that the interaction of motivational with perceptual variables would affect perceptually mediated responses. If homosexuality were an area of concern for paranoid individuals, words reflecting homosexuality would be recognized more rapidly by paranoid individuals than by individuals less concerned with homosexuality. Correct recognition times were independent of word length, familiarity, and affective connotation of the words used.

The *S*s were paranoid schizophrenics, unclassified schizophrenics, and normals. Words comprising the test list were tachistoscopically presented.

It was found that: (*a*) paranoid *S*s recognized homosexual words significantly faster than did the other two groups of *S*s; (*b*) there were no significant differences between unclassified schizophrenics and normals in recognition times to homosexual words; and (*c*) differences in recognition times to heterosexual words were not significant among the groups.

The psychoanalytic postulation was supported, in that homosexuality appeared to be an area of greater concern for paranoid than for the other groups of *S*s. (Slides)

David, Henry P. (*Western Psychiatric Institute and Clinics, University of Pittsburgh*) **A critique of psychiatric and psychological research on insulin coma treatment for schizophrenia.**

Since that day in 1932 when Sakel first announced the use of insulin coma as a new treatment for schizophrenia, insulin shock treatment (IST) has been the focus of a great deal of clinical investigation and much discussion. This paper is essentially in the nature of a critique and attempts to discuss methodological problems relevant to psychiatric and psychological research with IST.

Psychiatric evaluation of IST has been hampered by a general lack of research sophistication among clinicians. While a great deal of work has been accomplished, objective data essential for valid conclusions are mostly lacking. Psychological investigations have consisted primarily of (*a*) observation and examination of patients before insulin injection and immediately after awakening from the hypoglycemic state, (*b*) evaluation of changes in test performance before and after IST utilizing both nonprojective and projective techniques, (*c*) studies aimed toward the establishment and validation of prognostic test indicators, and (*d*) investigations of possible deteriorative side effects of IST.

Many of the shortcomings attributed to psychiatric research are equally valid criticisms of psychological, primarily "test-oriented" research. All too frequently control groups have not been utilized and the statistical procedures employed leave serious doubts about the results obtained. There have been no published reports of experiments designed to test specific or general hypotheses relevant to the psychological meaning of IST, or to promote more extensively the understanding of psychological processes involved. After 20 years of opportunity for research, IST continues to offer a major challenge.

Davidson, Helen H. *see* Levine, Judith

Deatherage, Bruce H. *see* Blodgett, Hugh C.

DeGaugh, Roy A. (*Combat Crew Training Research Laboratory, HRRC, Randolph AFB*) **The relationship between attitudes and combat performance of B-29 crews in the Far East.** (Sponsor, Robert L. French)

PROBLEM: To investigate the relationship between combat performance of B-29 crews in the Far East and their attitudes toward various objects or conditions relevant to crew membership, such as the Air Force, their jobs, flying, etc.

SUBJECTS: Members of 103 B-29 crews assigned to combat duty in the Far East.

PROCEDURE: An attitude survey containing 82 items was administered to members of 103 B-29 crews who were in the process of completing a combat tour in the Far East. Crew ratings by superiors were collected. Ten scales were obtained as the result of an iterative method of scaling, and these agreed to a considerable extent with those obtained previously on a sample of crews in training. Crew means were computed and correlated with crew performance as measured by superiors' ratings. Intercorrelations of scales were computed and the matrix of intercorrelations factored by the centroid factor method. Correlations of the ratings with the rotated factors were then computed.

RESULTS: Significant positive correlations between attitude scales and performance were found for all but three scales. The latter were in the proper direction but did not reach significance at the .05 level of

confidence. Three factors were obtained by the factor analysis using communality estimates in the diagonals. CONCLUSIONS: The attitudes held by combat crew members correlate significantly with crew combat performance, and thus may possibly be important factors in determining the combat performance of combat flying crews. Theoretical implications will be discussed.

Delgado, José M. R. *see* Rosvold, H. Enger

Denny, M. Ray *see* Goer, Marvin

Desiderato, Otello L. (*New York University*) **The interaction of several variables in latent learning.**

PROBLEM: To determine the effect of five variables on latent learning in a T maze.

SUBJECTS: 96 albino rats.

PROCEDURE: *S*s received four periods of T-maze exploration. One goal box was painted white, the other black. An empty food dish was present in each goal box. On the test day, each *S* was placed through the roof into one goal box where it found food for the first time. After 1 min. of "prefeeding," it was placed into the maze stem for a free choice trial. Choice-point responses were never reinforced. Twenty spaced trials were given, 10 daily.

Five variables were investigated in a 2^5 factorial design: (*a*) Straight-alley pretraining. Half the *S*s received 6 pretraining periods in an empty straight alley before T-maze exploration. The others received 3 min. of daily handling. (*b*) Social vs. individual exploration. Half the *S*s explored the T maze 3 at a time. The others explored individually. (*c*) Enforced activity vs. restriction. Half the *S*s were restricted within small compartments 1 hr. before every maze-exploration session. The other half were run for 15 min. in an activity wheel revolving at 5 rpm. (*d*) Visual cues. On test trials, half the *S*s were carried from prefeeding goal box to start box in a light-tight box. The others were transferred by hand. (*e*) Vestibular stimulation. During this transfer from goal box to start box, half the *S*s were rotated a full 360° turn. The others were not rotated.

RESULTS AND CONCLUSIONS: Analysis of variance indicated that restricted *S*s performed better than enforced-activity *S*s when the vestibular turn was omitted. Individual explorers were superior to social explorers when alley training was omitted. *S*s with alley pretraining were superior to *S*s lacking this pretraining when the vestibular turn was included. Other variables produced insignificant differences. An interpretation of the data is suggested, employing S-R reinforcement- and expectancy-theory constructs.

De Valois, Russell L. (*University of Michigan*) **The relation of different levels and types of motivation to variability of behavior.**

PROBLEM: To determine (*a*) what effect intensity of motivation has on variability of behavior for an approach motive (thirst) and an avoidance motive (escape from shock); (*b*) whether there is an overlap in the amount of variability with approach and avoidance motivation.

SUBJECTS: 41 albino rats.

PROCEDURE: The apparatus consisted of five diamond-shaped units connected in series, with the entire floor electrifiable. Diagonal alleys, one across each diamond, formed a path straight to the goal when opened. The animals were divided into four motivation groups: 6-hr. thirst, 22-hr. thirst, light shock, and strong shock. After preliminary experience with the whole maze, they were run for 24 days, one trial a day, with the middle (diagonal) alleys closed by glass doors. Among the measures of variability used in this situation were: (*a*) the extent to which the path taken each day differed from that taken the previous day, and (*b*) the amount of uncertainty in the responses, treating the 120 responses as a continuous binary sequence. On Day 25 the middle alleys were opened, and the animals were run another 12 trials with shorter paths available. In these trials another kind of variability—resistance to change when a better solution is available—was studied.

RESULTS: (*a*) Within each type of motivation, the low-motivation group was more variable than the high-motivation group. (*b*) There is an overlap in the range of variability exhibited by the approach-motivated and the avoidance-motivated animals. (*c*) A high positive correlation exists between the variability in the first situation (Trials 1–24) and in the second situation (Trials 25–36).

These results indicate a continuum from extreme variability to fixation. They conflict with theories which postulate a different mechanism for fixated than for variable behavior. (Slides)

d'Heurle, Adma J., & Haggard, Ernest A. (*University of Chicago*) **Socialization, personality, and mental processes.**

PROBLEM: To investigate relationships between socialization pressures on children and developing patterns of personality needs and mental abilities, and their relation to general and differential school achievement.

POPULATION: 76 third-grade children at the University of Chicago Laboratory School.

PROCEDURE: To assess parental pressures, personality needs, and modes of mental functioning, the Rorschach and Children's Apperception Tests,

records of behavioral observations and interviews with the children, background data from cumulative records and parent questionnaires and interviews were used. Achievement test batteries were given at the beginning and end of the school year.

RESULTS: Children who excel in all school subjects: their parents exert excessive pressures for school achievement; the children have developed preference for academic-type subjects, efficient work habits, and compliance with teacher wishes and demands. They also show strong feelings of guilt, excessive concern for orderliness and cleanliness, and express strong latent negative feelings toward parental figures. Behaviorally, they are more hostile and competitive with siblings and peers. Their mental approach is characterized by introversiveness, facility with words, symbols, and abstract concepts, and tendencies to intellectualize experiences. The reverse pattern was found for the academic non-achievers.

Children who excel in specific subjects: arithmetic achievers tend to be overtly aggressive and spontaneous, and confident in their interpersonal relations. Reading achievers tend to be restricted and compulsive behaviorally, but expansive and free in their fantasy life. Spelling achievers tend to be passive, conforming, and lacking in spontaneity. The findings are independent of such measures of mental ability as the Stanford-Binet and PMA tests, and relations with school achievement became clearer during the school year.

CONCLUSIONS: Meaningful relations exist between the nature of socialization pressures in the home and the developing patterns of personality needs, modes of mental functioning, and school achievement in children.

Diab, Lutfy *see* Kates, Solis L.

Digman, John M. (*University of Hawaii*) **The influence of early massing of practice on final level of performance of a motor skill.**

Performance decrement in learning can be easily demonstrated under conditions of massed practice; whether massing during learning has any effect on later performance has been, in the last two years, an open question.

To test for the possible effects of early massing on terminal performance of a rotary-pursuit skill, 41 female *Ss* were distributed into three experimental groups which had the following distinctive features: Group A—5-min. and 20-sec. practice with no rest; Group B—16 trials of 20 sec. each, separated by 10-sec. rests; Group C—16 trials of 20 sec. each, separated by 10-sec. rests, with a 5-min. rest following every fourth trial. In addition, all groups received 4 initial trials of 20 sec. each, separated by 10-sec. rests. After Trial 20, all groups were given 30 additional trials of 20 sec. each, separated by 10-sec. rests, with a 2-min. rest at the end of every second trial. A week intervened between Trials 30 and 31.

While the three groups differ considerably, and significantly, on Trial 21, the size of these differences decreases very rapidly. When the means of the three groups are adjusted (using the regression equation based upon the within-groups sum of cross products) for differences in initial ability (as measured by the first 4 trials), the differences on Trial 30 are slight and statistically insignificant. Following the 1-wk. interval, performance levels of the three groups (means adjusted for differences in initial ability) are virtually identical on the first recall score, on the sum of Trials 46–50, and on the sum of Trials 31–50.

The results can be regarded as further evidence against the need of a concept of permanent work decrement, at least in the field of motor learning. (Slides)

Docter, Richard *see* McFarland, Robert L.

Doidge, William T., & Holtzman, Wayne H. (*University of Texas*) **Influence of color upon form perception.** (Sponsor, Wayne H. Holtzman)

PROBLEM: For some time the effects of color upon form perception have been of interest to investigators using the Rorschach test. This study was undertaken to determine the relative influence of bright, transparent colors superimposed in different patterns upon incomplete, line drawings of familiar living creatures, forms readily recognized by everyone when perceived in their entirety.

SUBJECTS: 128 college students with normal color vision.

PROCEDURE: Twelve drawings from the Holtzman Form-Recognition Test were selected on the basis of previous studies, four achromatic cards constituting a practice series for each subject, the remainder providing different forms for two test series of four cards each. Stimulus materials for Part A consisted of all the possible combinations of four forms—a woman, a lion, a pig, and a goat; four colors—red, yellow, green, and blue; and four patterns of color application—solid, splotched, wavy striped, and speckled. Part B consisted of four different forms in combination with red, yellow, blue, and no color. Each subject was presented twelve cards in groups of four cards each using a Harvard Tachistoscope, and time required to recognize the figure was recorded.

Analysis of variance was made for responses to the first card alone in Part A. Similarly, a two-way analysis was performed on scores for the first card in Part B. Using an arabic-greco-latin square for Part A and a greco-latin square for Part B, the differential effects of the primary variables upon recognition time were examined for repeated measures across subjects.

RESULTS: In Part A, form, color, and pattern effects all proved highly significant. In Part B, only form was significant. Implications of these and other findings for Rorschach color theory as well as general perceptual theory will be discussed.

Dombrose, Lawrence A. *see* Slobin, Morton S.

Drake, Raleigh M. (*Kent State University*) **The importance of musical memory in musical performance.**

Among tests of musical aptitude, musical memory or memory for music in one form or another has consistently proved to be the most valid. Biographies and the lives of great musicians show without exception the possession of phenomenal memories. Why this trait is important can be understood if a performance analysis is made of typical musical activities: learning to play in tune, developing technique, composing, conducting, public performance, playing from the score, interpretation, and general musicianship. The artistic performance of good music is a complex task requiring a high degree of integration of numerous relatively isolated factors. The extent to which this integration in musical performance is achieved is mainly proportional to the degree of musical memory possessed.

Drasgow, James, & Feldman, Marvin J. (*University of Buffalo*) **A study of conceptualization in schizophrenia through the use of the visual-verbal test.**

PURPOSE: This study uses a new test to observe systematically the clinical findings that conceptualization in schizophrenia differs from the other major clinical groups. This new test may be useful in differential diagnosis and also may further an understanding of schizophrenic thought processes.

TEST DESCRIPTION: The usual verbal test has 42 cards. Four objects on each card can be formulated into two concepts using three objects per concept. The relatively simple concepts are based upon color, form, size, position, and naming. Errors are scored as single and double misses.

SUBJECTS: Six groups have been tested including normals, acute and chronic schizophrenics, neurotics, organics, and feebleminded. Each group contained between 36 and 50 *Ss*, who were equated for age and intelligence when required.

RESULTS AND CONCLUSIONS: Three major types of analyses were conducted. The first compared the error scores of schizophrenic groups with all other groups. Significant differences were found between the schizophrenic groups and each of the others. Overlap varied from none between schizophrenics and normals to considerable overlap between schizophrenics and organics. Discriminant functions were then used to maximize discrimination.

Certain formal properties of the test were analyzed. The order of difficulty of the kind of concept was computed for each group; the difficulty of identical concepts was compared to nonidentical concepts; and the difficulty of cards with both concepts of the same three objects was compared to cards with the two concepts on different sets of three objects. Results are relevant to a general understanding of concept formation and a specific knowledge of conceptualization in schizophrenia.

Qualitative differences in error scores between schizophrenics and other groups were noted and classified. Schizophrenics made errors in a relatively unique manner. These findings facilitate differential diagnosis and also throw new light on schizophrenic thought processes.

DuBois, Philip H. *see* Jones, Edward R.

Dugan, Robert D. (*Ohio State University*) **Comparison of evaluation of B-29 crews in training and in combat.**

PROBLEM: Although the ultimate performance criterion of aircrews is their success in combat, much current criterion research has been focused, for practical reasons, upon the development of intermediate criteria based on measures obtained within a training situation. The purpose of the present study is to investigate the relationship between intermediate criteria of this kind and criteria derived from combat data.

SUBJECTS: 167 crew members of 29 B-29 aircrews, who were evaluated both in training and in combat.

PROCEDURE: The criterion scores in training were derived from the following sources of data: (*a*) proficiency tests, (*b*) peer ratings, (*c*) ratings of instructors, and (*d*) flight checks. The combat criterion scores were based upon ratings from superiors and from peers. Both training and combat data were factor analyzed for crew position. In the training situation, the data from each of the four sources were factor analyzed separately, and the resulting factor scores were used as criteria of training performance. Similarly, for the combat data, the superiors' and peers' ratings were each factor analyzed and the resulting factor scores used as combat performance criteria. The factor scores

developed from the training and the combat data were then correlated with each other.

RESULTS: The highest correlations were found between proficiency test scores in training and peer ratings of proficiency in combat. For certain crew positions significant correlations were obtained between the proficiency test scores in training and superiors' ratings in combat. Some significant relationships were found between peer ratings in training and peer ratings in combat. No significant correlations were found between flight-check factor scores in training and any of the combat criteria. For certain crew positions it appeared that the specificity of the combat criteria tended to lower the relationships between the evaluations of training and combat performance.

This research was supported by the Human Factors Operations Research Laboratories, United States Air Force, under Contract No. AF 18 (600)-27.

Dukes, William F. *see* Secord, Paul F.

Dumas, Lenore R. *see* Fromm, Erika

Dunlap, Ralph L. (*Ohio State University*) **Some effects of social reinforcement on changes in attractiveness of children's goal objects.**

PROBLEM: A social learning theory of personality must account for changes in valence of goals and goal objects at least partly in terms of social interaction effects. The present study investigated the general hypothesis that goal-object valences change as a function of the type of expected social (*i.e.*, adult) response associated with the object. Direction, degree, and stability of preference change were evaluated in relation to a matching variable (initial preference level) and three experimental variables: (*a*) type of social reinforcement (mild criticism, neutral, strong approval and approval-plus-expectancy for extrasituational approval); (*b*) one- and seven-day retest delays; (*c*) different retest experimenters.

SUBJECTS: 64 third-, fourth-, and fifth-grade boys.

PROCEDURE: The *S*s ranked a set of nine play objects for ownership preference. They were then matched for initial preference for a predetermined "critical goal object" and randomly assigned to one of sixteen possible experimental variable combinations. *E* then administered the experimental reinforcement in relation to *S*'s performance of a standard task with the critical goal object. Re-rankings of all nine objects indicated direction and amount of preference for the critical object.

RESULTS: Analysis of variance of preference changes of the critical goal object indicated that only the reinforcement variable contributed significantly to mean differences. Both mean increase and proportion increasing in preference were significantly greater for the two positive conditions as compared to control and negative conditions. Differences between control and negative and between the two positive conditions were not significant. Changes showed stability and considerable generality in situations involving a different adult. The general hypothesis is supported. Theoretical implications and possible refinements of method are discussed. (Slides)

Dymond, Rosalind. (*University of Chicago*) **The relation of accuracy of perception of the spouse and marital happiness.**

PROBLEM: Is accuracy of the perception of the marriage partner related to the effectiveness of the relationship?

SUBJECTS: 15 couples who had been married from six months to 38 years with a mean duration of 10.4 years.

PROCEDURE: First a subjective marital happiness quotient was derived by having the couples independently give the names of ten married couples they knew. They were then asked to rank them from one to ten in order of their estimate of the happiness of the marriage. Next they were asked which couple their own marriage was most like. This rank was then taken as their "Happiness Quotient." This divided the group into eight Happy couples (ranks 1–3), and seven Unhappy couples (ranks 4–10).

Each partner was then required to fill out two copies of a questionnaire made up of 115 MMPI items, first for himself and second as he predicted his spouse would answer it.

RESULTS: The happy group made significantly fewer errors in predicting their spouses' responses (t significant at 1%). The partners in the happy group had a significantly higher degree of similarity of their self concepts (t significant at 1%). The happy group had significantly fewer projection type errors, errors of assuming the spouse will answer similarly when in fact they differ (t significant at 1%).

An item analysis showed 15 items on which the two groups differ significantly in their answers. Two of these are in the nature of validating the Happy-Unhappy separation, and the rest are important personality indicators.

CONCLUSIONS: In this kind of group (marital units) the general proposition was confirmed that accurate prediction of the partner's self-concept (which assumes high understanding of him) and satisfaction with the relationship occur together. Lasting love is not blind and ignorance is not bliss. Possible predictive indicators of happiness will be discussed.

Ebel, Robert L. (*State University of Iowa*) **A simple procedure for accurately estimating the equivalence reliability of a test.**

A simplified procedure has been derived, and the necessary special tables provided, for estimating the equivalence reliability of a test as defined by Kuder-Richardson Formula 8. The procedure is defended on the ground that it provides the best possible estimate of equivalence reliability, and that it can be obtained with no more labor than the generally popular but less precise Formula 20.

Having made a preliminary rough estimate of the test's reliability, the computer enters the appropriate table with proportions of correct response to an item in upper and lower 27% groups, and reads a value for $pq(1-r_{ii})$. These values are summed for all items and used with the variance of total test scores to estimate the reliability. If this result indicates that a substantial error was made in the preliminary estimate of test reliability, the process is repeated using a table appropriate to the revised estimate.

Sample tables for use with this procedure are presented, and results from it are compared with those obtained from more laborious procedures or from less precise formulas.

Edwards, Ward. (*Johns Hopkins University*) **Information, repetition, and reinforcement as determiners of two-alternative decisions.**

PROBLEM: What determines repetitive choices between two alternatives when probabilities of reward (PR) vary?

SUBJECTS: 24 randomly selected male Johns Hopkins undergraduates.

PROCEDURE: *S* inserted a nickel chip into a tape-programmed slot machine, pressed one of two buttons, and received either two chips or none. For half the *S*s, whenever one button was not rewarded, the other was. For the rest PR's for the two buttons always summed to 1, but the sequences were independent, so that on any trial both buttons, either, or neither might be correct. Within each of these two groups, half the *S*s were run with lights which flashed after each response above the winning button or buttons, and half were not. Each group had 150 trials per day for nine days. PR's ranging from 0.5 to 0.8 were used.

RESULTS: Count of the frequency of response to each side shows that probability of response agrees with PR fairly well when PR is 0.5 or 0.6, but is greater than PR when PR is 0.7 or 0.8. Few differences between the four groups emerge in this kind of analysis.

Analysis of sequences of responses by the techniques of information theory shows that uncertainty of prediction decreases markedly as PR deviates from 0.5, but is not decreased appreciably for extreme values of PR by considering sequences of length greater than one. The experimental variables produce differences in uncertainties.

CONCLUSIONS: The results of this experiment are generally consistent with others in the field. Information, repetition of previous responses, and reinforcement all influenced choices, and consideration of each of them reduces uncertainty of prediction. Not much reduction of uncertainty is achieved when probabilities are widely divergent from 0.5 by considering sequences of responses rather than single responses. (Slides)

Ellis, Douglas S., & McHugh, Richard B. (*Iowa State College*) **Deviant responses in a manipulative task.**

PROBLEM: The hypothesis that deviantly long responses may occur when *S* repeatedly performs a simple motor response is suggested by two considerations: (*a*) such responses have been observed by Bills in computational problems; (*b*) Kimble's theory of inhibition suggests that such responses function to maintain inhibition at a tolerable level when organisms work under massed practice (MP). Two specific hypotheses follow from Kimble's theory: (*a*) deviantly long responses will occur under MP; (*b*) more deviant responses will occur under MP than under distributed practice (DP).

SUBJECTS: 18,000 responses produced by 12 male college students.

PROCEDURE: Each *S* produced 1,500 responses on a simple block-turning task. The 12 *S*s were equally divided between MP and DP. In DP, sequences of 20 responses were followed by a 10-sec. rest. A microswitch and kymograph recording apparatus was used to determine the time to turn each block, and the time to travel between blocks.

The data were analyzed in 20-block sequences, using Dixon's range-ratio criterion for outlying measurements. Response- or travel-time measures which fulfilled the criterion for an outlyer at the 5% level of confidence were accepted as deviant responses.

RESULTS: The results for the response-time measures were: (*a*) MP and DP did not differ significantly in respect to number of deviant responses; (*b*) the deviant responses under MP were significantly longer than those under DP; (*c*) the fastest response in each 20-block sequence was significantly faster under MP than DP; (*d*) response times subsequent to a deviant response were not significantly different from response times prior to the response. The travel-time measures failed to yield an appreciable number of deviant responses.

CONCLUSIONS: The results are interpreted to imply that MP exaggerates a variability in performance present in DP. This variability is tentatively identified with shifts in response modes as inhibition accumulates. The results also suggest some revision in Kimble's theory: deviant responses occur as predicted, but apparently do not have an appreciable effect on inhibition. (Slides)

Embree, Royal B., Jr. (*University of Texas*) **Method of interpretation and maturity as related to what counselees learn from test interpretations and how they feel about them.**

PROBLEM: This report is based upon two investigations. The first study involved analysis of the reactions of 75 ninth-grade children to three procedures for the interpretation of tests. The second study provided analysis of the reactions of 200 children in grades nine through twelve to a single procedure for interpretation of tests.

SUBJECTS: Students in the public schools of two small cities.

PROCEDURE: The Differential Aptitude Tests and the Kuder Preference Record were administered to students in the ninth grade of one school and to all high school students in the other school.

In the study which involved method, the scores of 25 children were interpreted in private and individual conferences. The remaining 50 children shared a group interpretation in which they constructed personal profiles under guidance. Twenty-five members of this larger group were immediately given individualized follow-up conferences.

In the study which involved maturity, group interpretations followed by voluntary individual follow-up conferences were provided separately for students in each of the four grades.

Interpretations and conferences were handled by students at the practicum and internship levels of the counselor-training program.

Four evaluative devices were used in the investigation: (*a*) a short objective scale which measured facts learned about the tests; (*b*) a device scored by judges against actual test profiles which measured facts the counselees had learned about themselves; (*c*) a set of incomplete sentences about tests and interpretations which were scored by judges within several response categories; and (*d*) a sample of positive and negative statements about tests and interpretations handled like a *Q* sort and scored for positive attitude toward the experience.

Evaluations were secured from children during the days immediately following the interpretations.

RESULTS: Significant differences associated with both method and maturity were observed. However, sharp individual differences in reaction were discovered in all groups. Results will be presented in the form of mimeographed charts.

Emery, David A. (*Research Institute of America*) **The widening gap in executive-supervisory attitudes—a nationwide survey.**

PROBLEM: (*a*) To compare executives' and supervisors' attitudes at the end of 1951 and 1952 concerning what kind of information would help supervisors most in their work. (*b*) To develop hypotheses about the meaning and probable causes of any significant differences or similarities between the groups or from year to year.

SUBJECTS: 5,231 executives and supervisors from over 100 different industries representing companies of all sizes from each of the census regions.

PROCEDURE: Questionnaires listing 24 topics known to be of supervisory interest were sent out in November, 1951 and 1952 to executives and supervisors throughout the nation. Supervisors were asked to check the topics about which they would most like to receive information. Executives, receiving the same list, were asked to check topics they thought supervisors needed information about most.

Returns were analyzed to determine what percentage of each group checked each topic each year. Topics were ranked according to frequency of response and rhos were obtained.

RESULTS: Disagreement between executives and supervisors is much greater now than a year ago. Inspection of specific topics shows that in 1951, both groups gave "human-relations" topics top priority, "procedural" matters came second, and "economic information" topics were last. The 1952 returns, however, show that executives consider procedural matters of primary importance and put human relations second. Supervisors, on the other hand, still regard human relations know-how as their greatest need, but want economic information more than help on procedural matters. Results of additional breakdowns are reported.

CONCLUSIONS: The results permit alternative interpretations: (*a*) higher management is losing touch with front-line needs; (*b*) higher management is more aware of supervisory needs than supervisors themselves. Both of these possibilities point to a general need for better communications between the different levels of management. Additional conclusions are drawn.

Eriksen, Charles W. *see* Hake, Harold W.

Estes, William K. *see* Lauer, Donald W.

Ewing, Thomas N. (*Student Counseling Bureau, University of Illinois*) **The relation between changes in attitudes during counseling and the counselor's estimate of improvement in adjustment.**

The study is concerned with changes which may occur during counseling in correlations between clients' ratings of themselves, of the way they would like to be (ideal self-rating), of their counselor and their parents. More specifically, will attitudes change so that clients' ratings of themselves will approximate more closely the ideal self, mean ratings of a nonclient population, or their rating of the counselors?

Thirty clients of the University of Illinois Student Counseling Bureau rated themselves, their ideal self, their counselor, and their parents at approximately the beginning and end of counseling regarding personal problems. For each rating the same list of 100 trait names was used. Intercorrelations are obtained between each of these ratings. A normative rating consisting of the mean rating by a group of nonclients is also correlated with each rating.

Each client is rated by his counselor on a problem checklist as to estimated improvement during counseling. A weighted sum of these ratings is correlated with changes during counseling in the intercorrelations obtained from the client's ratings.

Estimated improvement in personal adjustment correlates positively at the 1% level of significance with an increase in the correlation between: (*a*) rating of self and ideal self-rating, (*b*) rating of self and rating of counselor, (*c*) rating of self and the mean nonclient rating, (*d*) rating of self and ideal self-rating with mean nonclient rating partialed out, (*e*) rating of self and rating of mean nonclient rating, with the rating of ideal self partialed out. These changes are accounted for more by changes in the self-rating than by changes in the other ratings.

Exline, Ralph V. *see* Horwitz, Murray

Faison, E. W. J. *see* Rose, N.

Farnsworth, Paul R. (*Stanford University*) **Suggestions for improving the Hevner "mood-clock."**

The Hevner "mood-clock" of descriptive adjectives has had considerable use in several areas of experimental aesthetics. Its 67 adjectives are grouped into eight clusters, with the cluster membership largely determined by common sense. The members of any given cluster are supposed to describe rather similar moods.

With the thought that such a worth-while aid to phenomenological research merited more attention than it has heretofore received, the present experimenter decided to ascertain whether or not the mood-clock's cluster placements might not be improved upon. By tape-recording he presented 56 musical phrases to small groups of college students (total $N = 200$) who were to check those of the mood-clock's adjectives which seemed to them to be most descriptive. The experimenter's aim was to give each adjective its proper representation among the phrases, an aim which was not completely realized. The number of votes each adjective received during the playing of each of the musical phrases was tallied and from these tabulations 67 rank orders were to be determined. Actually only 66 rank orders were made since, by accident, one adjective was omitted from the lists given the *S*s.

Certain of the clusters were found to be properly constituted, i.e., the intramember rho's were above .90. Others had far lower rho's; a few of the coefficients were, in fact, negative. Suggestions are offered for a rearrangement of some of the less valid cluster memberships.

Feifel, Herman. (*Winter VA Hospital, Topeka, Kansas*) **Schizophrenics rank the "best years of life."**

PROBLEM: To explore the general attitudes toward aging of schizophrenic patients.

SUBJECTS: 38 male patients from an NP veterans hospital, mostly schizophrenic reaction, paranoid type. Mean IQ 108.2 ± 14.2; mean age 34.5 ± 9.7; range 20 through 61; mean educational level 11.1 ± 2.6.

PROCEDURE: A questionnaire containing 22 dimensions, e.g., meaningfulness of life, death, etc., was administered to the patients who were asked to rank these among 8 age periods ranging from childhood through old age. They were also asked to state the general meaning of old age for them. Age comparisons were made of patients below and above 35 years.

RESULTS: 1. The 30's are selected as the most favorable decade of life followed by adolescence and childhood. The 60's and later years are considered the least favorable time of life except for interest in religion.

2. The median peak period for aspects involving "physical and psychological functioning" is adolescence; for "values," the 20's; for "status," "employment," "activities and interests," the 30's.

3. The majority of mean ranks assigned the different age periods indicate a peak age period

with progressive increase in mean ranks for successive age periods on either side of the peak period.

4. Old age is viewed mainly as a period of inactivity and retirement (26%), approaching death (26%), and dependency on others (18%).

5. No significant differences in ranking exist between younger and older patients.

6. The findings agree substantially with those reported by Tuckman and Lorge regarding graduate students.

CONCLUSIONS: Available evidence concerning individual differences in aging has had little effect on this group of schizophrenic patients. Their outlook on old age coincides with prevalently held stereotypes. Increasing life expectancy and the growing importance of the later years underline the need of education for the older years.

Feigenbaum, Louis *see* Cohen, Jacob

Feldman, Marvin J. *see* Drasgow, James

Feldman, Robert S. (*University of Massachusetts*) **The role of response habituation in response fixation.**

PROBLEM: To control the effects of response habituation in evaluating the effects of random punishment on response fixation.

SUBJECTS: 45 albino rats.

PROCEDURE: All rats were trained to respond on a modified Lashley jumping apparatus. The rats were then subjected to a frustrating insoluble problem situation for 16 days, 10 trials per day. The problem was insoluble because the bright and dark windows were interchanged and locked in random order so that the rats' responses were punished 50% of the time. On each day, during the first 5 trials, the rats were free to jump to either of the two windows, but on the second set of 5 trials they were forced by means of a transparent screen to make responses opposite to those made on the first 5 trials. This caused the rats to make responses 25% of the time to all possible combinations (left-dark, left-bright, right-dark, right-bright). Punishment was also given 50% of the time during guided trials.

Following the frustration period, the animals were presented with a soluble bright-dark discrimination problem. In this stage the rats were given no guided trials. This stage continued for 20 days, 10 trials per day, or until the learning criterion was met—not more than one error in three consecutive days of testing.

A control group of 94 rats of the same stock and age was obtained from another study. These rats were treated in the same way as the animals described above, except that these control rats received 160 frustration trials *with no guidance*, followed by soluble discrimination problem for 200 trials.

RESULTS: Thirty of the 45 experimental animals (67%) and only 18 of the 94 control animals (19%) were able to solve the discrimination problem within the 200-trial limit. This difference in percentages is significant beyond the .01 level of confidence.

CONCLUSIONS: When rats are not permitted to develop specific responses during frustration trials, there is more likelihood that adaptive responses will be expressed when possible. This may mean that part of the rigidity characteristic of frustrated organisms is due to response habituation. But, some organisms still exhibit stereotypy even when no single response can be traced to more reinforcement than any other. Therefore, Maier's contention that frustration adds an increment to response strength not traceable to response reinforcement is supported.

Fensterheim, Herbert (*Service of Physical Medicine and Rehabilitation, New York City Hospital*), **& Lakritz, Joseph B.** (*Service of Physical Medicine and Rehabilitation, Goldwater Memorial Hospital, Welfare Island, N. Y.*) **An investigation of the role of self-concept in the physical rehabilitation of the aged.**

PROBLEM: Many aged patients undergoing physical rehabilitation are blocked by such factors as lack of motivation, general tension and nervousness, low pain threshold, onset of secondary physical symptoms, fear of falling, etc. It has been clinically observed that these are sometimes psychological blocks related to certain aspects of the patient's self-concept. This experiment investigates relationships between success or failure in rehabilitation and such factors as the patient's opinion of his own general ability, acceptance of illness or disability, perception of himself as a patient motivated towards recovery, and satisfaction with his own self-concept.

SUBJECTS: 20 men and 20 women, over 65, with various illnesses and disabilities, undergoing treatment in physical rehabilitation medicine. Half of these are patients judged by their physicians to be making satisfactory progress, the other half doing poorly, with allowance for variations in physical potential.

PROCEDURE: Each *S* is shown 12 portrait-type photographs of people of his or her own sex. The stimuli have been prescaled to yield a wide range of impressions, and are presented to *S*s in a pre-arranged random order. The *S* is instructed to rank the photos according to his perception of their: (*a*) intelligence; (*b*) extent of illness or disability; (*c*) eagerness to recover and leave the hospital; (*d*) resemblance of photos to *S*; (*e*) which photos *S* would *like* to resemble. Each *S*'s rankings are then

intercorrelated by the Spearman rank-difference method. Correlations in each group are then compared.

RESULTS AND CONCLUSIONS: The differences in the intercorrelations of "actual resemblance" with "desired resemblance" were the only statistically significant findings. Patients in the "satisfactory progress" group had high intercorrelations between these two rankings, whereas patients whose progress was poor were found to have much lower intercorrelations. It may be significant that a patient's satisfaction with his self-concept, regardless of what this concept is, seems to go along with good prognosis in the physical rehabilitation of the aged.

Fiedler, Fred E. (*College of Education, University of Illinois*) **Interpersonal perception of key men and the effectiveness of surveying teams.**

A previous study of basketball teams suggests the hypothesis that more effective teams and relatively ineffective teams prefer different persons as co-workers. In two independent samples we found negative correlations (−.69, −.58) between the proportion of games a team won and the assumed similarity score, ASo, of the team's preferred co-worker. Because a number of tests were computed, we do not consider the basketball findings as established. The present study tests the hypothesis that the ASo of preferred co-workers in surveying teams is negatively related to team effectiveness.

SAMPLE: 22 student surveying parties, working in teams of 3–4.

INSTRUMENT: (*a*) Sociometric ratings to determine the team's most preferred co-worker, and (*b*) interpersonal perception tests to measure ASo: the *S* predicts how a preferred work companion will describe himself on a paper-and-pencil personality test. He also predicts the responses of a rejected work companion. ASo is then computed by correlating *S*'s predictions of his best and poorest co-worker's responses.

CRITERION: The main criterion in surveying is accuracy in mapping. Rankings were here obtained from instructors who had intensively supervised the teams over a five-week period.

RESULTS: The preferred co-worker's ASo correlated significantly in the predicted direction with team effectiveness (−.51), thus supporting the hypothesis.

Low ASo on the basis of previous studies has been interpreted as indicating a task-oriented, relatively cold person. Since more effective teams chose low ASo persons, we expected to find them less congenial. While the findings are not significant, they suggest that the more congenial surveying teams tend to be less effective, i.e., accurate, than the less congenial teams.

Findlay, Donald C., & McGuire, Carson. (*AFF Human Research Unit No. 1, Fort Knox, Kentucky, and The University of Texas*) **Abstract thinking of children differing in family status and age-grade.**

The experiment was one of several dealing with cultural, genetic, and cognitive aspects of concept formation. One proposition to be tested was that abstract thinking is a function not only of developmental processes (maturation), but also of conditions arising out of discrepancies in social learning (socialization). Abstract behavior was measured by performance on a radically modified form (TBT) of the block technique originated by Ach. Successful performance was possible only when *S*s separated out, or abstracted, two or four variable attributes of the blocks relevant to a sorting problem.

A variance model was employed with age-grade, family status, sex, and order of presentation as potential sources of variation. The sample population included 144 *S*s, 48 in each of grades 3, 6, and 9. Within subsamples of 48, evenly divided by sex, 24 each were from middle- and lower-status homes. Only children with IQ between 90 and 110 were eligible for selection.

Each *S* undertook a sequence of three of the four TBT problems. For solution, problems required isolation and combination of color-breadth, color-height, shape-breadth, or shape-height abstractions. Scoring was based on the number of positive "helps" required before solution.

Significant differences were found in main effects for age-grade, family status, and presentations, but not for sex. By presentations, ranking in order from the least difficult was SH-SB-CH, CB-CH-SB, SB-CB-SH, and CH-SH-CB (almost equivalent). None of the interactions reached significance.

Abstract thinking measured by TBT performance increased with age. Girls with learning sets achieved in a middle-class life-style were superior at every age. Middle-status boys clearly were superior in grade 9. As one of the repeated abstraction elements, shape and color repetitions facilitated performance more than breadth or height. (Slides)

Fitts, P. M. *see* Bennett, W. F.

Fitzelle, George T. (*Department of Home Economics, Division of Child Development and Family Relations, University of California, Los Angeles*) **Proverbs as a measure of strength of opinion: the relationship between strength of opinion and adjustment.** (Sponsor, Russell C. Smart)

PROBLEM: To determine the extent to which middle-aged and older women who score "high" and "low" on a measure of adjustment (Burgess, E. W., Cavan, R. S., Havighurst, R. J. *Your activities and attitudes*. Chicago: Science Research Associates, 1948) can make decisions regarding the strength of their beliefs in matters relating to health, friends, etc. It is hypothesized that the ability to make such decisions is one indication of a functioning philosophy of life and is therefore related to personal adjustment. This hypothesis is based upon the assumption that well-adjusted older people cannot be tentative about their beliefs in many different areas of life.
SUBJECTS: 76 middle-class widows of age 55 and over, living in two similar college communities. The proverbs were administered to those scoring in the upper and lower deciles.
METHOD: Proverbs were pretested in order to obtain four proverbs from eight areas of life which would represent three points on a scale of general attitude: one proverb expressing "favorable" attitudes, another expressing "unfavorable" attitudes, and two proverbs which could be interpreted as either "favorable" or "unfavorable." The *S*s rated the proverbs on a six-point scale according to the extent of their agreement or disagreement.
RESULTS: The difference between the two groups with regard to the tendency of the "lows" to choose neutral items (agree slightly more than disagree) was significant at the 0.5% level. The tendency of the "highs" to select the extreme options (strongly agree or disagree) was significant at the 0.1% level.
DISCUSSION: Since the two groups were selected on the basis of adjustment score and since both tests differentiate between the two groups, it is possible that both tests measure the same characteristics. Various factors were present which lend credibility to the original hypothesis.

Fitzpatrick, Robert, & Vasilas, James N. (*American Institute for Research*) **Near-accident reports in aviation: their collection and analysis.** (Sponsor, Robert Fitzpatrick)

PROBLEM: Under the sponsorship of the Air Force School of Aviation Medicine, this study investigated how reports of near-accidents, or "close-calls," might best be collected and analyzed to supplement records of aircraft accidents as aids to accident prevention and research.
SUBJECTS: Pilots from eight Air Force bases submitted 618 anonymous reports in the experimental study. Additional reports received from 12 other bases brought the total number to 1,778.
PROCEDURE: After preliminary study, two proposed methods of collecting reports were tried out in succession, but in counterbalanced order, at the eight bases. Both numbers and kinds of reports were considered in evaluating the methods.
RESULTS: The "group-orientation" method (in which the local Flight Safety Officer called in groups of pilots periodically to write reports) yielded greater numbers of reports than the other experimental method. Both methods elicited more reports than have been collected by previous methods. The kinds of reports collected by the new methods appear to be more usable for detection of unsafe acts than are reports obtained by previous methods. Finer breakdowns of reports spotlighted certain errors and malfunctions which appear to be specific to, and diagnostic for, certain aircraft and situations.
CONCLUSIONS: Near-accident reports show substantial promise as aids to accident prevention. Near-accidents appear to be relevant, frequent, and amenable to detailed reporting and analysis. However, the numbers and kinds of reports obtained depend upon the method of collection. Further refinement of methodology should provide working procedures for continuous collection, correction-oriented analysis, and effective dissemination of information from near-accident reports.

Fleishman, Edwin A. (*Human Resources Research Center, Lackland AFB*) **The relation between abilities and improvement with practice in complex psychomotor performance.**

PROBLEM: Measures of psychomotor skills typically show extensive improvement even during the brief testing period. It then becomes important to investigate possible changes in the factor structure of such tests as a function of practice on the test. More specifically an attempt was made to *identify* the factors involved at different stages of performance on a criterion psychomotor task through the inclusion of well-established reference variables in the analysis. The analysis also was aimed at identifying (*a*) the stages of practice in which the task is most complex, (*b*) the stages at which systematic changes in factor structure occur, (*c*) the stage at which the factor structure becomes stabilized, and (*d*) the relative importance of "motor" versus "nonmotor" factors at early and late stages of practice.
SUBJECTS: 200 basic airmen.
PROCEDURE: Practice on the criterion task, the Complex Coordination Test, was continued for 64 two-minute trials. Eighteen printed and psychomotor tests were also administered. Scores obtained during eight stages of learning and the 18 test variables were subjected to a Thurstone centroid factor analysis.
RESULTS: The orthogonal solution of rotated factors revealed nine meaningful factors: Psychomotor Co-

ordination, Rate of Movement, Spatial Relations, Perceptual Speed, Visualization, Mechanical Experience, Numerical Facility, Psychomotor Speed, and a factor specific to the stages of practice on the criterion task.

CONCLUSIONS: Considerable but systematic changes occurred in the factor structure of the criterion test as practice on the task was continued. The test was most complex factorially in the initial stages and progressively less complex as practice continued. There was also a progressive shift in the *nature* of the factors contributing variance at different stages of practice. At early stages of practice certain "nonmotor" factors predominate, but at later stages, "motor" factors predominate. The results are discussed with implications for test development in this aptitude area, for problems of criterion analysis, and for learning theory.

Fleishman, Edwin A. *see* Hempel, Walter E.

Forgays, D. G. *see* Cloonan, T. F.

Forgays, D. G., & Roby, Thornton B. (*Combat Crew Training Research Laboratory, HRRC, Randolph AFB*) **Group effectiveness in bomber crews: analysis of in-flight communications in the study of coordination.**

PROBLEM: Research on small group performance has been hampered by the complexity of relationships between predictor variables and end-products of performance. The need for theoretical models to bridge this gap is evident. Although various models exist, each containing important features, none quite seems to suffice. Recently, a theoretical model dealing with the communication process and its relation to group efficiency was developed. The measurement situation for which it was primarily designed is the area of interphone communication occurring in B-29 crews during flight. As an initial test of the utility of the model and its suggested hypotheses, the present study was undertaken.

SUBJECTS: A sample of 67 B-29 crews which received combat crew training at Randolph Air Force Base, Texas, during 1951–52.

PROCEDURE: Interphone communication recordings were obtained during typical training flights for the crews. Employing these interphone protocols and a rather extensive scoring system, indices of coordinational performance suggested by the theoretical model, e.g., measures of the anticipation of informational needs, measures of the distribution of communication, etc., were calculated. Index computation was directed at three levels, the over-all crew, subteams within the crew, and the individual. Indices representing these three levels were related to various end-product criterion measures, including bomb scores, measures of navigational accuracy, and instructor ratings.

RESULTS: The indices used in this study were found to possess reliability sufficiently high to be useful for research purposes. Significant relationships were found between various of the coordinational-index scores and external criterion measures.

CONCLUSIONS: These results are accepted as generally supportive of the theoretical model suggested for dealing with the analysis of the interactions and performances of groups. Further development and extension of the model to deal with a larger class of communications and groups, as well as future steps to refine and validate it empirically, will be discussed. (Slides)

Fox, David *see* Lorge, Irving

Fox, David, Lorge, Irving, Weltz, Paula, & Herrold, Kenneth. (*Teachers College, Columbia University*) **Comparison of decisions written by large and small groups.** (Sponsor, Irving Lorge)

PROBLEM: To compare the quality of decisions written by small *ad hoc* staffs, 6 to 8 men, and large *ad hoc* staffs, 12 and 13 men.

SUBJECTS: 400 Air Force officers enrolled at the Air University.

PROCEDURE: Small staffs of 6 to 8 officers and large staffs of 12 to 13 officers were formed, *ad hoc*, to work for 50 minutes on a plan of action to solve a complex human relations problem.

RESULTS: The decisions were appraised by the Quality Points Score (Lorge *et al.*).

The quality of the decisions written by the large staffs were significantly superior to that of decisions written by small staffs. Thus, in a 50-minute period a large *ad hoc* staff of 12–13 officers was able to organize and establish channels of communication to produce a written group product superior in quality to those produced by small staffs of 6–8 officers in the same length of time.

This apparent superiority of large staffs contradicts the general finding in the literature that a group of 8 or more members cannot operate as efficiently in a problem-solving or decision-making situation as a smaller group.

Freeburne, Cecil M., & Schneider, Marvin. (*Bowling Green State University, Bowling Green, Ohio*) **Shock for right and wrong responses in learning and extinction with human subjects.** (Sponsor, Cecil M. Freeburne)

PROBLEM: Previously, the senior writer and Taylor found faster learning in animal *S*s shocked for both right and wrong responses than in *S*s not shocked

for either response. The present study investigated the effect of shock for right and wrong responses with human *S*s, in both learning and extinction.

SUBJECTS: 70 volunteer men and women from undergraduate psychology classes at Bowling Green.

PROCEDURE: *S*s learned a pattern of 20 right-left choices in a temporal maze, indicating choices by pressing electric switches. Learning and extinction took place under the following conditions: no-shock (in learning), no-shock (in extinction); shock-wrong, no-shock; shock-wrong, shock-wrong; shock-right, no-shock; shock-right, shock-right; shock-both, no-shock; shock-both, shock-both. Shock was administered by way of a metal contact with *S*'s hand. Correct responses were reinforced by a tone of 512 cps, which was omitted during extinction. Shock, sequence of choices, and tone were controlled by an electronic timer.

RESULTS: Analyses of variance yielded F ratios which were significant beyond the .001 level of confidence for both learning and extinction. The *t* test revealed that learning under all three shock conditions was significantly faster than with no shock, and the shock-both group learned significantly faster than the shock-right group. Of the 21 comparisons among extinction conditions, 10 were statistically significant. In order from fastest extinction to slowest, the conditions were: shock-both, no-shock; shock-right, no-shock; shock-both, shock-both; no-shock, no-shock; shock-wrong, no-shock; shock-right, shock-right; shock-wrong, shock-wrong.

CONCLUSIONS: For learning, the results obtained with human *S*s are in accord with those previously obtained with animal *S*s, and can be interpreted according to the Spence-Hull frame of reference. The extinction results, though more complex, are in general agreement.

Freeman, Walter *see* Robinson, Mary Frances

Fritz, Martin F. (*Iowa State College*) **Psychological factors in educational television.**

Television is characterized by immediacy which is a feeling on the part of the viewer that something is actually taking place before his eyes. Certain experiments and observations indicate that the factor of immediacy is of considerable importance. A shortcoming of the television camera is its inability to adequately reproduce the panorama of the human eye. Certain techniques are resorted to in order to minimize this deficiency. Movement is exaggerated on TV and therefore motions must be slowed down. Writing on the blackboard must be restricted and also made more compact. "Fades" and "dissolves" as transitional devices should be used sparingly in educational TV. Over-the-shoulder shots are valuable for certain subjective presentations. "Noisy" settings are to be avoided because they constitute visual distractions. There is a decided size illusion because the TV screen is actually equivalent to viewing an area about the size of a postage stamp at reading distance.

Froehlich, Clifford P. (*School of Education, University of California, Berkeley*) **Test-score information in the counseling process.**

PROBLEM: Counseling has been characterized as essentially a learning situation in which the counselee learns more about himself. The content of counseling is therefore information about the counselee. Certain counselors introduce test-score information into the counseling process on the assumption that it enriches the content of counseling and hence enables the counselee to learn more about himself. This study was designed to ascertain the accuracy with which counselees can recall the test-score information which they "learned" during counseling.

SUBJECTS: Two groups of high school students in two California public schools.

PROCEDURES: All students were counseled in a manner which placed emphasis on test-score information. After counseling students were asked to recall test-score information.

DISCUSSION: The correlations between "actual" and "remembered" test scores are low. High-scoring students distort their scores less than low-scoring students. Accuracy of recalling scores varies considerably from one type of test to another.

IMPLICATIONS: The report points out implications of data for counseling practice and for criteria of counseling effectiveness.

Fromm, Erika, Dumas, Lenore R., Leimert, Mary L., & Marcus, Richard E. (*Department of Otolaryngology, Colleges of Medicine, University of Illinois*) **A contribution to the theory of intelligence testing; with special application to children.** (Sponsor, Erika Fromm)

PROBLEM: Do intelligence tests measure intelligence only, divorced from the total personality, or do they really measure other aspects of personality or personality development as such? Currently, child intelligence and infant developmental tests are used in a static way, except by intuitive clinicians who base their dynamic interpretation on qualitative hunches. The theory of intelligence lags far behind the practical use of intelligence tests.

PROCEDURE: We believe that the way to get a theory behind testing is to analyze all the factors that might contribute to successes or failures on test items. Consequently, a careful analysis of all subtest items of the fifteen most widely used standardized infant developmental and child intelligence tests was under-

taken. The purpose was to uncover each one of the great variety of factors which may lead to success or failure on any single test item, rather than to think only of the factor in which the item may be loaded. RESULTS: No subtest item contains only one factor, nor do intelligence tests measure intelligence or "ability" only. Each subtest taps a number of personality dimensions. Intelligence tests, if understood in their full implications, measure personality development, of which the higher mental processes are but one facet. Intelligence tests can be used as dynamic personality tests. In particular, they measure ego development, ego strength, and ego weaknesses.
CONCLUSIONS: Our results seem to furnish a new underlying theory for developmental and intelligence tests, and to demonstrate that this is the same theory as that underlying projective techniques. Thus the cleavage which has heretofore existed between these two areas of psychology would be bridged. At the same time child intelligence and developmental tests, if understood and used according to the way proposed here, may help fill the long-existing need for the integration of psychoanalytic hypotheses with data of direct developmental observation. (Slides)

Frost, Laurence L. *see* Thaler, Margaret B.

Fruchter, Benjamin *see* Mahan, William W., Jr.

Fuller, John L. (*R. B. Jackson Memorial Laboratory*) **An experimental investigation of hereditary differences in behavior in dogs.**

Dogs ($N = 142$) of five pure breeds and of one F_1 hybrid were given two 5-day periods of training in walking on a lead beside a handler. Scoring was based upon demerits in 5 categories: balking, fighting the lead, interfering with the handler, running ahead or behind, and vocalization. Total score means were in the order: Basenjis, Shetland Sheep Dog, hybrid of Basenji and Cocker Spaniel, Beagle, Cocker Spaniel, Wirehaired Terrier. Breed differences in total score and on each category-score were highly significant ($p < .001$). Each breed has a characteristic category-score profile. Sex differences in total scores were not significant, but did appear in category scores.

Total scores can be approximated by a set of linear regression equations with slopes and initial day intercepts which are characteristic of each genetic group. The initial day intercept is taken as a measure of wildness; the slope gives a measure of the effect of training. Both parameters must be specified to characterize a breed.

The correlation coefficient between lead training scores and scores on a similar stair-climbing test was .09 for the entire population, but highly significant r's were obtained for some breed subsamples. This suggests a genetic influence upon the organization of specific abilities, and requires consideration of the meaning of intertest correlations.

The results of this experiment indicate that highly specific items of behavior are involved in breed differences. It is concluded that particulate measures of behavior which fit the particulate concepts of genetics will be more useful in studying the inheritance of behavior than measurements of constitutional type.

Garvey, W. D. *see* Knowles, W. B.

Garvey, W. D., Knowles, W. B., & Newlin, E. P. (*Naval Research Laboratory*) **Increasing display-control efficiency by altering informational coding.** (Sponsor, W. D. Garvey)

PROBLEM: Several experiments have been conducted to determine the relationship between display-operator-control efficiency and informational coding. The results indicated that the coding process was an important determiner of the operator's information handling capacity. With regard to the particular displays and controls used in these studies, the most efficient systems appeared to be those which permitted the operator to code a maximum number of the S-R elements in spatial dimensions and a minimum number in more analytical dimensions. The present experiment was conducted to determine whether display-control efficiency could be improved by the application of this principle, i.e., maximizing the number of S-R elements affording coding of a spatial nature.
SUBJECTS AND PROCEDURE: Eight sailors were *S*s in a latin-square design. Prior to the experiment proper, *S*s were matched into two groups. The amount of information presented per stimulus and the motor difficulty were constant from group to group. The variable of complexity of coding was manipulated in the experimental group by placing lines on the display and control in such a manner as to permit spatial coding of messages which had previously been determined to require analytical verbal coding. The efficiency of the systems was measured in terms of mean response time to 100 stimuli. The *S*s were given one trial of 100 stimuli on each of the systems for 35 days.
RESULTS AND CONCLUSIONS: The results showed that efficiency was enhanced for those systems where addition of lines afforded increased spatial coding. This enhancement increased with practice. When the lines were removed on the 27th day of practice, the performance time was substantially increased for those systems where the addition of lines had afforded an increase in spatial coding. (Slides)

Geller, Irving *see* Brady, Joseph V.

Gerard, Harold B. (*New York University*) **The effect of different dimensions of disagreement upon the influence process in small groups.**

PROBLEM: To demonstrate that previous findings concerning the effects of pressures toward uniformity upon the influence process in a group will generalize to group situations where more than one dimension of disagreement exists among the group members.

SUBJECTS: 393 volunteers from freshman English classes at the University of Michigan.

PROCEDURE: It was possible for *S*s in each of 36 experimental groups, ranging in size from 8 to 14 members, to disagree among themselves both as to the relative importance of the two issues which they were to discuss and as to their opinions on each issue. These choices were made public. Utilizing a fourfold design, the groups were studied under conditions of high and low pressures toward uniformity and under conditions of perceived homogeneity and heterogeneity of membership with respect to the possession of skills and information. These variables were induced by verbal instructions. The *S*s indicated any changes of opinion which occurred during a 20-minute discussion which was carried on via written messages.

RESULTS AND CONCLUSIONS: In all but four of the groups, a majority-minority subdivision occurred with respect to the choice of which issue was more important. An analysis of the communication content, the choice of recipient for communication, and the changes of opinion which occurred support the following inferences: (*a*) The division of the group into a majority and minority had a crucial effect upon the need for support by the members of these subgroups. The minority members manifested a greater need for support than did those in the majority. (*b*) Greater pressures toward uniformity arose in the homogeneous than in the heterogeneous groups, being accentuated under high pressures toward uniformity. (*c*) Pressures to agree with "experts" arose in the heterogeneous groups, being accentuated under high pressures toward uniformity. (*d*) The tendency for group subdivision was greater in the heterogeneous than in the homogeneous groups.

Gibbs, Patricia K. *see* Maccoby, Eleanor E.

Gibby, Robert G. *see* Hiler, E. Wesley

Gibson, Eleanor J. (*Cornell University*) **The effect of training on absolute estimation of distance over the ground.**

Can estimation of visually perceived distances be improved by training, when the distances are perceived over a ground surface and when the same stretch of distance is never judged twice? Absolute judgments of distance were made in yards. The judging ground was a flat mowed field, 500 by 150 yards, devoid of any obstructions except the targets. Twenty-one targets were so laid out in relation to six station points that *O* never judged the same target from the same station point more than once. Thus it was impossible for *O* to memorize a given distance associated with a given target.

An experimental group was given a pretest and a posttest of 18 judgments, the targets ranging from 52 to 395 yd. from *O*. Interpolated training consisted of 18 judgments at each of five different station points, with correction by *E*. A control group followed the same procedure except for omission of the 90 training trials. Thirty *O*s from the Cornell population, and 92 basic trainee airmen served as *S*s.

Results showed enormous variance between *O*s in the pretest. Mean constant errors for different *O*s ranged from an underestimation of 158 yd. to an overestimation of 553 yd. for all targets. Training reduced constant errors and group variability. Some individuals shifted from underestimation to overestimation, or vice versa, but the over-all effect was an increase in accuracy. Individual consistency increased significantly with training. It also increased slightly for the control group. The results are interpreted to mean that training by corrective reinforcement can shift *O*'s subjective scale in the direction of veridicality; and that perceptual learning, in the sense of an increased specificity between stimulation and a judgmental category, can occur. (Slides)

Girdner, John B. (*Duke University*) **An experimental analysis of the behavioral effects of a perceptual consequence unrelated to organic drive states.**

Necessary involvement of organic drives, directly or indirectly, in behavior production has been widely assumed and recently questioned, specifically in curious, exploratory, or manipulative behavior. One determinant of such behavior may be perceptual changes produced by the behavior itself (perceptual consequence).

To study such effects, a situation was developed in which occurrence of a simple identifiable stimulus was contingent upon an operationally definable and behaviorally specific act. Systematic variations of exposure to the perceptual consequence and exposure to the experimental situation prior to introduction of the consequence were investigated.

The situation consisted of a small, dimly illuminated, rectangular box with a fixed bar at one end. Touching the bar resulted in immediate appearance of a small, dim light coterminous with bar contact. Experimental periods were of 10-min. duration on 9 successive days. Number and duration of contacts were recorded during successive half minutes.

Ninety-six albino rats were divided into eight groups. One group received the light consequence throughout, one never. For other groups, the light was introduced, or was removed, after Days 1, 3, and 6.

It was found that with and without light, response rate decreased rapidly within and over several days. Rates are greater with than without light for four days. This difference in rate increased with 0, 1, and 3 days of exposure to apparatus without light. Introduction of light after Days 3 and 6 produced absolute increases over the previous non-light day. Indication of some persistence of higher rates was obtained after removal of light.

The effect of this perceptual consequence not related to organic drives suggests desirability of further analysis with this methodology. A characteristic of the perceptual consequence is suggested to account for both increased response rate upon introduction of light and decrements in rate for all groups. (Slides)

Glaser, Robert, & Schwarz, Paul A. (*American Institute for Research and University of Pittsburgh*) **Scoring problem-solving test items by measuring information.** (Sponsor, Robert Glaser)

A technique, called the tab item, has been developed for the measurement of proficiency in diagnostic problem-solving tasks. In this item, information concerning the results of whatever diagnostic procedures and solutions the examinee chooses are given to him at the time he selects them. The primary purpose of this paper is to indicate how the measure of information developed by Shannon offers a rational basis for scoring a tab item.

A quantitative measure may be applied which is an indication of the amount of information the examinee obtains per diagnostic procedure. For example, a four-solution tab item contains two bits of information. If an examinee makes the correct choice on his first try at a solution, he has applied two bits of information and is credited with that amount. If he makes an incorrect choice and then chooses again, he is presented with only three possibilities. What has happened is that the tester, by informing the examinee of his error, has reduced the uncertainty of the problem situation. The tester has, in effect, applied the information originally available to the examinee to apply in choosing between two alternatives: the rejected answer (probability one-fourth) and the three remaining ones (probability three-fourths). Hence, the information the tester has supplied on the first choice is: $H_1 = \frac{1}{4} \log \frac{1}{4} + \frac{3}{4} \log \frac{3}{4}$ or $H_1 = .81$. After a first incorrect choice, therefore, the examinee is left with a situation that requires 2 minus the .81 bits applied by the tester or 1.19 bits. If the examinee chooses correctly on his second trial he has applied that amount of information and is so credited. This amount of information applied is divided by the total number of diagnostic procedures performed. This ratio yields the amount of information obtained by the examinee per diagnostic procedure. Similarly, the information associated with the remaining three-choice situation and the remaining two-choice situation which may occur can be determined.

Glickman, Albert S. (*Officer Personnel Research Project, American Institute for Research*) **An analysis of some ship performance measures by the Wherry-Gaylord iterative factor analysis method.**

PROBLEM: The ultimate level of performance at which it is practically possible to obtain quantitative measurements of "success" in naval operations is at the level of the performance of the ship as a whole. This pilot investigation explores the feasibility of applying factor analysis to ship performance evaluation data in order to develop high level criterion measures for the validation of more proximate subcriteria and predictors of personnel performance.

POPULATION AND PROCEDURE: Data obtained on 59 ship evaluation variables for 55 ships of various types (out of an original pool of 91 variables for 103 cases), extracted from files of regular competitive exercises, were analyzed by the Wherry-Gaylord iterative factor analysis method.

RESULTS AND CONCLUSIONS: Six factors were derived. The basic ship performance evaluation data from the sample of ships used in this study demonstrate the presence of underlying basic dimensions which can account for the common variance of the scores meaningfully and parsimoniously, suggesting the feasibility of developing useful high level criteria. Implications for personnel research in the Navy are discussed.

Goer, Marvin, & Denny, M. Ray. (*Michigan State College*) **Position preference and discrimination learning.** (Sponsor, M. Ray Denny)

PROBLEM: The experiment was designed to test the effect of position habit on brightness discrimination learning.

SUBJECTS: 46 hooded rats were divided into five groups of 10, 10, 10, 10, and 6 animals.

PROCEDURE: There were three experimental groups and two control groups. The apparatus was a modified Grice-type discrimination box. The treatment was as follows: Experimental Group I was given a relatively weak position habit; Experimental Group II was given a position habit of intermediate

strength; Experimental Group III was given a relatively strong position habit. Control Group I did not receive any experimental strengthening of the position habit. Control Group II was matched against Experimental Group II with regard to the extra amount of training, number of reinforcements, and pattern of reinforcements, without consistently strengthening the position habit. Following this training all groups were required to learn a black-white brightness discrimination problem in the apparatus to a criterion of 9 out of 10 correct responses per day. A noncorrection technique was utilized throughout the experiment.

RESULTS: Application of an analysis of variance revealed the following results: (*a*) Experimental Groups I and II required significantly fewer trials to learn the black-white discrimination problem than did Control Groups I and II. (*b*) Experimental Groups I and II were not significantly different from one another with regard to learning the discrimination problem, and the same was true with respect to Control Groups I and II. Experimental Group III required a significantly greater number of trials to learn the black-white discrimination problem than did any of the other groups.

In general, these results do not follow directly from the position taken by Spence and will be interpreted in terms of frustration-induced learning. (Slides)

Gogel, Walter C., & Harker, George S. (*Army Medical Research Laboratory, Fort Knox, Kentucky*) **The effectiveness of size cues to relative depth as a function of the lateral separation of objects.**

In this study, the perceived relative depth location of two actual objects was investigated by using a stereoscopically projected circular test object which was adjusted by *O* to apparent depth equality with each of the two objects, when the test object was laterally displaced from one of the objects but not from the other.

One experiment used two playing cards of different size, both of which were physically located at the same distance from *O*. Each card was viewed binocularly. Two different amounts of lateral separation between the two cards were used. The results from this experiment indicate that the apparent difference in depth between the two cards was greater with the larger lateral separation of the cards.

In a second experiment which used a situation similar to that of the first experiment, one of the cards was seen binocularly while the other was seen monocularly. The results indicate that, in this experiment also, the apparent difference in depth between the two cards was greater with the larger lateral separation.

In a third experiment, using a square and a rectangle, it was demonstrated that a monocular object would tend to be seen at the same apparent depth as a binocular object, and the results from a fourth experiment, using two squares and a rectangle, indicate that the strength of this tendency is inversely related to the lateral visual separation of the monocular and binocular object.

Finally, an experiment was run to evaluate this tendency as an explanation of the results which were obtained when the two different-sized playing cards were used. (Slides)

Goldberg, Solomon C. (*Army Medical Service Graduate School*) **Three situational determinants of conformity to social norms.**

PROBLEM: This study tests the hypotheses that *S*s' conformity to social norms is a direct function of (*a*) their extent of opinion deviation from the group norm, (*b*) the number of occasions they are exposed to the group norm, and (*c*) the size of the group. Conformity was defined as the degree of reduction of *S*s' opinion deviation.

SUBJECTS: 60 white male college students, 20 controls and 40 experimentals.

PROCEDURE: The procedure was administered to each individual member of groups of four and groups of two. In a first session of judgments each *S* made repeated IQ judgments of nine photographs which were exposed for about three seconds each. In a second judgment session of the same materials the consensus judgment of his group co-member(s) was reported to him; the number of exposures to the group norm was varied. The group judgment was fictitious and hence manipulable in creating various degrees of opinion deviation. Controls received no group opinion in the second judgment session.

RESULTS AND CONCLUSIONS: 1. Knowledge of a group norm by an *S* results in his conforming to the group norm.

2. *S*s do not conform more to the norms of groups of four than to groups of two.

3. *S*s conform more when their degree of opinion deviation from the group norm is greater; however, it is noteworthy that the *percentage* of their conformity for all degrees of opinion deviation is a constant.

4. Ss reach their own maximum level of conformity to the group norm within the first five trials, and additional exposures to the group norm produce no significant increments in amount of conformity. (Slides)

Goldman, Morton *see* Horwitz, Murray

Goldstone, Sanford. (*Department of Psychiatry, Duke University*) **Flicker-fusion measurements and anxiety level.**

PROBLEM: Following a study by Krugman suggesting that *S*s with anxiety were less sensitive to flicker than normal *S*s, this investigation examined the relationship between flicker-fusion measurements and anxiety level, the latter defined in the context of the psychiatric diagnosis of anxiety reaction.

SUBJECTS AND PROCEDURE: The criteria for anxiety involved two measures, Lorr's anxiety-tension rating scales, and an original symptom checklist validated on a patient population. Criteria for designation as high or low anxiety on both scales were established. Agreement on designation by both measures was required for including an *S* in the experiment.

Seventy-four *S*s meeting specific criteria and selected serially from patients and relatives in the Duke outpatient psychiatric clinic were separated into six groups: 33 high anxiety patients, 18 low anxiety patients, 2 high anxiety normals, 21 low anxiety normals, 35 total high anxiety and 39 total low anxiety.

All *S*s received 15 ascending and 15 descending method-of-limits runs alternately with a 30-second rest after each 10 runs. A flicker-fusion threshold (FFT) and a measure of intrasubject variability were obtained. A comparison was made of the FFT of the first 10 runs with the FFT of the last 10 runs.

RESULTS: It was found that all high anxiety groups were less sensitive to flicker, more variable in their judgments, and showed a greater decline in FFT following continued exposure to flicker than the low anxiety groups (group differences reliable at better than the .005 level of confidence).

The possible relationship of the autonomic nervous system, the circulatory system, fatigue and stress with respect to the reported flicker-fusion phenomena is discussed. The potential usefulness of this technique as a quantitative, reliable, and sensitive measure capable of reflecting change in anxiety level following psychiatric therapy is also considered. (Slides)

Gordon, Donald A. *see* Zeidner, Joseph

Green, Bert F., Jr. (*Massachusetts Institute of Technology*) **A method of scalogram analysis using summary statistics.**

Current techniques for determining whether a set of items forms a Guttman scale all deal directly with the raw data. Cumbersome procedures are described for rearranging the rows and columns of the item response matrix so that a response parallelogram is achieved with few deviations. For large numbers of respondents, the task is overwhelming. This paper presents a relatively simple method of scalogram analysis that uses summary statistics. Only the case of dichotomous items is presented, although the method may easily be extended to include nondichotomous items.

The methods may be outlined as follows: (*a*) Dichotomize all items according to some criterion, if the items are not already dichotomous. Designate the positive, or favorable, response to each item. (*b*) For each pair of items, i and j, tabulate the proportion of respondents giving the positive response to item i and the negative response to item j, $P_{i\bar{j}}$, and also the proportion giving the negative response to item i and the positive response to item j, $P_{\bar{i}j}$. (*c*) Determine a rank ordering of the items so that $\sum_{g=1}^{k-1} P_{g+1,\bar{g}}$ is minimum; the subscript refers to the rank order of the items. (*d*) Compute an estimate of the reproducibility from the formula:

$$\hat{R}e_p = 1 - \frac{1}{k}\sum_{g=1}^{k-1} P_{g+1,\bar{g}} - \frac{1}{k}\sum_{g=1}^{k-3} (P_{g+3,\bar{g}}P_{g+2,\overline{g+1}} + P_{g+3,\overline{g+1}}P_{g+2,\bar{g}}).$$

An example of the application of the method is provided.

The method depends on the following theorem, for which a proof will be presented: If dichotomous item responses are indicated as + or −, and if the items are ordered so that, for the perfect scale types, a + response to any item implies a + response to all items of *lower* rank order, then the minimum number of errors in any response pattern is the number of mutually exclusive pairs of items in which the response to the higher ranking item is +, and the response to the lower ranking item is −.

Green, R. F. *see* Andreas, B. G.

Green, R. F., Andreas, B. G., & Spragg, S. D. S. (*University of Rochester*) **Accuracy of bisection of angular extents with knob controls as functions of direction of final movement and number of settings.**

PROBLEM: To investigate (*a*) the accuracy of bisecting angular extents by means of a control knob as a function of the direction of the final setting movement, and (*b*) the effect on accuracy of repeated bisections.

SUBJECTS: 96 right-handed military men in basic training.

PROCEDURE: Each *S* was given 42 trials. The first 20 settings of each *S* included 10 in which final movement was to the right and 10 to the left, all at 80°. These two conditions were alternated from *S* to *S*. There followed immediately 8 settings on each of the following conditions: final movement right, 40°; left, 40°;

right, 120°; left, 120°. All 24 permutations of these four conditions were used.

RESULTS: The importance of the direction of the final setting movement was found to be dependent both upon the angular extent being bisected and upon the number of times the setting had been repeated.

The *S*s overshot the setting they were attempting to make when the final setting movement was either to the right or to the left but they overshot less when final movement was to the left.

The effect of repeated trials varied with the angular extent being bisected. There was a marked tendency for overshooting to increase with repetition of bisections of 40° or 80° but not of 120°.

CONCLUSIONS: Operators of equipment requiring the bisection of an angular extent might perform better if trained always to make their final movement to the left.

The drift of constant errors with repeated trials is extensive enough for all but large (120°) angles to influence significantly the results of experimentation on bisection of angular extents with knob or dial controls.

This study was carried out under contract with Special Devices Center, Office of Naval Research. (Slides)

Greenhill, L. P. *see* McIntyre, C. J.

Grinker, Roy R. *see* Basowitz, Harold

Gross, Frank A. *see* Levine, Abraham S.

Gross, Zoltan. (*VA Hospital, Downey, Illinois*) **Learning and lobotomy.**

The question asked in the present study was: Does the lobotomy operation affect performance in a learning situation in which the *S*s are required to "translate" information from one sensory modality into another?

In an attempt to answer this question a lobotomized group, a psychotic group, and a group of nonpsychiatric tuberculosis patients were tested. There were 33 patients in each group.

The *S*s were asked to place Seguin Form blocks into the formboard without looking at either the board or the blocks. They were then asked to draw what they "thought" the board "looked like." A measure of learning in which no translation was required was obtained by asking *S*s to put the forms back into the board a second time, again without looking at them, and measuring the accuracy of the second placing of the forms into the intaglios of the board.

It was found that: (*a*) the lobotomized patients were significantly inferior in their ability to translate information from one modality into another as measured by immediate recall. (*b*) The learning of the lobotomized patients was significantly less stable when they were asked to "translate" information. (*c*) However, when the patients were asked to recall using the same modality as that from which they received their information the psychotic and lobotomy groups did not differ significantly. The nonpsychiatric group was significantly superior to the other groups on this measure.

On the basis of these results it was concluded that the fibers transected by the lobotomy operation play a role in the facilitation of communication between the somesthetic reception centers of the cerebrum and those centers which mediate such visual-motor behavior as the drawing of simple geometric figures.

Guertin, Wilson H. (*VA Hospital, Knoxville, Iowa*) **A factor analysis of curvilinear distortions on the Bender-Gestalt.**

PROBLEM: The present investigation was designed as a propaedeutic study of the factors concerned with curvilinear distortions on the Bender-Gestalt.

METHOD: The Bender-Gestalt productions of 100 hospitalized mental patients were evaluated for curvilinear distortions. A variety of diagnoses were represented, but the predominant diagnosis was schizophrenia. Scoring items were selected largely from previous literature describing curvilinear distortions. The resulting 42 items were scored for "presence" or "absence" and intercorrelated, using tetrachoric tables. The multiple-group centroid method was employed to extract the factors.

RESULTS: Six fairly prominent factors were extracted from the intercorrelation matrix. They were: curvilinear nonclosure related to general emotional imbalance, curvilinear irregularity related to impulsiveness and inconsistency, propensity for curvilinear movement related to disorganized affective display, fragmentation related to schizophrenic dissociation or dissolution, and resistance to curvilinear movement, related to reaction formations to the emotions. A sixth factor stemmed largely from experimental dependence and did not seem to have much psychological importance. All factors were rather low in their intercorrelations. Factor loadings for gross diagnostic groupings were also calculated and assist in identifying the psychological features underlying each factor.

CONCLUSIONS: The first three factors seem to be related to emotional expression, while the last two illustrate reactions to emotions. Further validation of the psychological significance of these factors should be forthcoming before extensive clinical application. The results suggest interpretations pertaining to the emotions of mentally ill *S*s. The results are largely in line with current principles for interpreting expressive drawing.

Guetzkow, Harold. (*Carnegie Institute of Technology*) **Effects of communication restriction upon the development and functioning of small problem-solving groups.**

This laboratory study is one of related theoretical and field studies on organizational behavior in progress at Carnegie Tech's Graduate School of Industrial Administration.

PROBLEM: (*a*) To examine interrelationships among different forms of communication restriction and speed of task performance, incurrence of internal organizational costs, the kind of organizational structures which evolve in the course of group problem-solving behavior, and members' perceptions of their organization's functioning. (*b*) To replicate aspects of the Leavitt-Bavelas experiment on communication nets. SUBJECTS: 220 freshmen engineering students arranged into five-man groups.

PROCEDURE: The 44 groups were divided threefold, each set being placed in communication nets with varying degrees of freedom. The control groups were given complete freedom to write messages to each other. The "wheel" groups did their problem solving in a net which was congruent to the demands of the task. The "circle" groups operated in a net which contradicted the task requirements. Each group was given 20 trials on Leavitt's "missing symbol" problem, with opportunity between trials to work on their intragroup organizational problem. The time and efficiency performance of the group on the "missing symbol" problem measured the progress the group made on its intertrial organizational problem-solving. Questionnaire data gathered during and at the end of the 20 trials were used to supplement the interaction analysis. RESULTS AND CONCLUSIONS: (*a*) The group with full communication among its members evolved the same organizational structure as was imposed on the "wheel" groups by restricting the communications and eventually performed the group task with the same speed and internal cost. The "circle" groups had much difficulty organizing themselves, and stabilized their internal structures only at primitive levels. (*b*) Those parts of this experiment which replicated Leavitt-Bavelas' work were found to be in substantial agreement with the earlier results. (Slides)

Guilford, J. P. *see* Christensen, P. R.

Gulliksen, Harold. (*Princeton University*) **A reliability coefficient for paired comparisons.**

For use with the method of paired comparisons Mosteller has presented a chi-squared test of the agreement between theoretical and observed proportions (see *Psychometrika*, 1951, **16**). Such a test labels the deviation between observation and theory as either "significant" or "nonsignificant" but does not indicate whether the variance accounted for by the theory is large or small in relation to the total variance in the data.

Professor John Tukey has outlined a more comprehensive variance components approach which includes the chi-squared test of goodness of fit as one aspect and a reliability coefficient for paired comparisons as another aspect.

The method of analysis will be presented and illustrated with several sets of data.

The following results have been obtained on three sets of data: Set A: Reliability = .99, $\chi^2 = 73.8$ (48.3 is at the .01 level); Set B: Reliability = .99, $\chi^2 = 73.4$ (48.3 is at the .01 level); Set C: (Mosteller's data) Reliability = .92, $\chi^2 = 14.8$ (15.4 is at the .80 level). Sets A and B were based on 100 judges for each comparison while Set C was based on 22 judges for each comparison, thus for the first two sets we find that while the very slight residual variance cannot be regarded as purely random, nevertheless, the reliability is very high.

This study was supported in part by the Office of Naval Research Contract N6onr-270-20 with Princeton University. (Slides)

Gump, Paul *see* Boileau, Dorothy N.

Gurin, Gerald. (*Survey Research Center, University of Michigan*) **Some factors related to the 1952 vote.**

PROBLEM: In the 1952 election many people voted who had not voted in 1948, and many traditional Democrats switched to Eisenhower. To what extent were these changes a response to the particular issues and personalities of the 1952 campaign, and to what extent were they influenced by more long-term, enduring, political attitudes?

SUBJECTS AND PROCEDURE: Extensive personal interviews were obtained on a national probability sample of 2,021 persons. People who maintained the same party allegiance in 1948 and 1952 were compared to those whose 1952 vote represented some change from 1948 in their perceptions of the parties and candidates, their involvement in the election, and their attitudes on several basic policy issues representing long-standing ideological divisions between the Republican and Democratic Parties.

RESULTS: 1. The "new Republicans" (voters gained by the Republican Party in the 1952 election) differed significantly in certain basic ideological orientations from the "new Democrats" (voters gained by the Democratic Party in 1952).

2. The "new Democrats" took a more partisan ideological position than that taken by the "new Republicans," and tended to perceive their party's victory as of more crucial significance.

3. The "new Republicans" were more positively responsive to the personalities and nonideological issues of the 1952 campaign than were the "new Democrats."

CONCLUSIONS: These findings suggest that basic political attitudes were relatively more influential in effecting change toward the Democrats than toward the Republicans in 1952, whereas nonideological factors in the campaign situation worked almost exclusively to the advantage of the Republicans.

This analysis is part of a large-scale study of the 1952 election being carried out by the Survey Research Center of the University of Michigan, under the sponsorship of the Carnegie Corporation and the SSRC Committee on Political Behavior.

Gurvitz, Milton S. (*Hillside Hospital and Adelphi College*) **Personality and intellectual correlates of the aging process as measured by the Rorschach technique.**

PROBLEM: Are the changes in intellectual functioning found in tests of intelligence with groups of adults from maturity to senescence reflected in less structured situations?

SUBJECTS: Three groups matched for race, sex, and education at the 20–24, 35–39 and 50–54 age levels, and of average intelligence; three such age groups matched at the superior level, and three such age groups at the inferior level. Total number of groups is nine, with 50 cases in each group making a total of 450 cases.

PROCEDURE: Means and sigmas for each age and intellectual group were prepared and the results graphed. Where the data permitted it, chi square was used to evaluate age differences since the *t* technique was not applicable.

RESULTS: The data evaluated at this state consisted of the most objective scoring variables: number of responses, reaction time to first response on each card, number and percentage of *W, D, d,* & *Dd* & *S*; number of *M, FM, F, Fc, FC, CF* & *C*; *F%*; *FK* + *F* + *Fc%*; *F* + *%*; sum *C, M*: sum *C, W*: *M* and *A%*.

The three groups at the superior intellectual level showed no significant differences in aging except that *R* was reduced at the .01 level in each age step. The three groups at the average level showed significant decline in *M, FM* and *Fc* and some decline in *FC* and *CF* & *C* with a significant increase in *F* and *F%* in determinants and some increase in *D* in location. *R* was again significantly reduced. The three groups at the lower intellectual level showed significant or near significant differences in almost all the categories with declines in all areas except *F, W* and *CF* & *C* which were increased.

CONCLUSIONS: The results of this comparison at various age and intelligence levels show that the very intelligent person retains his personality integration relatively intact to the 50–54 age level. The person on the average level shows signs of constriction in both ideation and emotional response by reaching the 50–54 age level. The person of lower intelligence undergoes profound personality changes on reaching the 50–54 age level in the areas of great restriction and loosening of emotional control as well as tremendous diminishment of performance in general. The Rorschach of the normal individual at various age and intellectual levels must be interpreted in accordance with age and intellectual and educational standards.

Gustafson, L. M. *see* Klare, G. R.

Guttman, Norman. (*Duke University*) **Theories of reinforcement and the reinforcement threshold.**

Current theories of reinforcement attempt to explain the occurrence of instrumental conditioning by an appeal to one or another critical qualitative aspect of effective reinforcing stimuli. It is questioned whether this is a feasible experimental goal, and it is suggested that an understanding of the role and function of the reinforcing stimulus can be approached through an analysis of the quantitative relations between magnitude of reinforcing stimulus and strength of conditioned behavior. The primary theoretical aim then becomes the explanation of the form and constants of the magnitude-strength function. The events critical to the occurrence of reinforcement are considered to be those which vary quantitatively in correspondence to the variations in strength of conditioned behavior. The qualitative problem of reinforcement may then be interpreted as the task of isolating the events which begin to be initiated when the reinforcing stimulus reaches a critical value—the reinforcement threshold. Various qualitative theories may be understood to make differential predictions as to the values of reinforcement thresholds and as to their variations under experimental manipulation.

Evidence is presented that rate of responding in the Skinner box with rats is a semilogarithmic function of the concentration of sucrose used as reinforcement. Extrapolation of the fitted rate-concentration function yields an estimated reinforcement threshold in the region of the sucrose-preference threshold and the human sucrose limen. Extension of this experimental technique to other reinforcing agents may yield a systematic pattern among reinforcement thresholds. Such a pattern may or may not coincide with predictions from extant qualitative theories, but the degree of correctness of any such theory becomes

highly determinate with reference to the sort of quantitative data required by the present methodological analysis. (Slide)

Guttman, Norman *see* Kimble, Gregory A.

Guyer, Earl G. *see* Lodge, George T.

Hagen, Elizabeth P. *see* Thorndike, Robert L.

Hagen, Elizabeth P., & Thorndike, Robert L. (*Teachers College, Columbia University*) **Normative test data for adult males obtained by house-to-house testing.**

Working under Air Force Contract 33(038)-13474, three brief ability measures were given to samples of adult males in different areas in the United States. In these preliminary surveys, no attempt was made to select a sample of areas adequately representing the whole country. However, within each area attention was paid to getting representative samples. All testing was done individually at the residence unit. Residence units were chosen at random within specified residence areas, the areas being stratified by socioeconomic level.

Each individual took a 20-word vocabulary test of items from the IER Intelligence Scale CAVD, a 12-item arithmetic reasoning test largely from the same source, and an 18-item mechanical comprehension test selected from the Differential Aptitude Test Battery Mechanical Comprehension Test. Tests were untimed. Score on the first two tests was number right. The Mechanical Comprehension Test was scored $R - \frac{1}{2}W$.

Although the regions chosen cannot be claimed to represent the whole country, norms for adult males in a number of different communities are believed to be sufficiently valuable to justify reporting them at this time. In addition to over-all distributions of scores, the following findings will be noted:

1. The tests show rather steep socioeconomic gradients. This is more true of the verbal and numerical than of the mechanical test.
2. Community differences are considerable, but are not consistent from test to test.
3. Community differences appear to be predictable in substantial degree by socioeconomic and educational variables identified in earlier studies as related to intelligence.
4. Differences associated with educational level are very marked—less so for the mechanical test.
5. No appreciable age decrements are noted in these groups.

Haggard, Ernest A. *see* d'Heurle, Adma J.

Hake, Harold W., & Eriksen, Charles W. (*Johns Hopkins University*) **Effect of the number of permissible response categories on the learning of a constant number of visual stimuli.**

PROBLEM: (*a*) To study the relationship between ability to learn the "names" of a set of 16 visual patterns and the number of different "names" assigned to the set. (*b*) To study the relationship between ability to relearn the "names" of a constant set of patterns and the number of "names" used in the original learning.

SUBJECTS: 90 male undergraduates.

PROCEDURE: *S*s were presented with 16 patterns of lights in random serial order and required to learn the arbitrary "names" of each pattern. *S*s in Group I were required to use just two "names" in identifying the patterns. In Group II *S*s used just four "names" in identifying the patterns and *S*s in Group III used eight "names." For relearning, *S*s in each group were assigned to one of three subgroups. The *S*s in each subgroup relearned the patterns using either two, four, or eight different "names."

RESULTS: (*a*) In original learning average errors made in naming the patterns were significantly and positively related to the number of response categories permitted. In the relearning scores this trend was reversed, the least number of errors being made by *S*s using eight "names." The interaction between number of "names" used in original learning and number of "names" used in relearning was highly significant. (*b*) The measure of average error and a measure of the distribution of these errors, response equivocation, were positively and linearly related.

CONCLUSIONS: The results are interpreted in terms of degree of stimulus differentiation, response differentiation, and response competition. (Slides)

Hall, Harry S., & Bell, Graham B. (*Louisiana State University*) **The relationship between two tests of empathy: Dymond's and Kerr's.** (Sponsor, Graham B. Bell)

Psychologists have been interested in empathy from the beginnings of their theorizing concerning human behavior. Empathy has been used as an explanatory concept in theories of art appreciation, schizophrenia, the development of clinical and counseling ability, and most recently the emergence of leadership.

There are at present two tests which purport to measure empathy, Kerr's and Dymond's. In view of the theoretical importance of empathy it is appropriate to determine the empirical relationship between these two tests.

In measuring the relationship between the scores on the two tests, Dymond's techniques were duplicated using leaderless discussion groups to give the subjects

an opportunity to interact and develop "empathy toward one another."

Fifteen groups of five members and three groups of four members met for 30 minutes. Dymond's tests were then administered. Kerr's test was administered approximately one week later. The results of the two tests were correlated for each group and an average correlation of .02 estimated.

Apparently no empirical relationship exists between Dymond's and Kerr's tests of empathy.

In an attempt to interpret this lack of relationship, differences in definition of empathy and methods of operationally measuring empathy are discussed. Though minor differences exist between the two definitions of empathy and its operational measurement it is concluded that both purport to measure in large part the same trait or attribute.

Although the original validity studies indicate that both tests are measuring something, this cross-validation study indicates both tests are not measuring the same thing. The theoretical implications are discussed with the view in mind of developing an appropriate definition of empathy.

Hall, John F. (*Pennsylvania State College*) **Learning as a function of word frequency.**

PROBLEM: The experimental work of a number of investigators has indicated a high inverse relationship between the frequency with which a word appears in the language (as indicated by the Thorndike-Lorge word count) and the duration of time required for the subject to perceive it. If the assumption is made that there is a relationship between perceptual threshold and learning as measured by a recall score (those words perceived most rapidly are easiest to learn) it should follow that words which appear with a high frequency in the language should be learned more readily than those of low frequency. Aside from this theoretical consideration, the relationship found between learning and word frequency should be of value in the construction of word lists which are so frequently used in rote learning experiments.

MATERIALS: Four word lists with each list containing 20 words were used. Each word contained 7 letters. The lists had frequency counts of 1, 10, 30, and 50–100 occurrences per million words according to the Thorndike-Lorge *Teacher's Word Book of 30,000 Words*. These lists represented a range of more than the 10,000 most frequently used words.

SUBJECTS AND PROCEDURE: Nine groups of 20 to 30 students per group obtained from introductory psychology classes at The Pennsylvania State College were used as subjects with a total of 227 subjects used in all. By means of a slide projector each word from a given list was presented to a group for 5 sec. Four such presentations were made with a 30-sec. rest period between trials. After the last trial, the subjects were given 5 min. to print as many of the presented words as they could recall.

RESULTS: Performance measured in terms of the number of words correctly written by each subject confirmed, at a statistically significant level, the hypothesis that the more frequently a word appears in the language, the more readily it is learned.

Hamilton, Charles L., Patton, R. A., & Pierce, Frank. (*Psychiatric Institute and Clinic, School of Medicine, University of Pittsburgh*) **An observation of steady-state behavior in a perceptual motor task.** (Sponsor, R. A. Patton)

PROBLEM: This research was designed to investigate the steady-state motor response of humans to auditory and visual inputs.

PROCEDURE: 22 adult *S*s were required to track an intermittent sound or light stimulus by hitting a response button coincident with the presentation of the stimulus. In this manner they were asked to track frequencies ranging from 30 to 240 per minute at 30 step intervals.

Two groups were formed containing six females and five males each. These were equated on the basis of a variable referred to as spontaneous rate. Each *S* at the beginning of the study was asked to strike the response button in a manner that seemed most natural for him. Scores were recorded as the number of hits per 1-min. trial run. *S*s were equated on the basis of the average of four 1-min. runs. Following this procedure, one group tracked eight frequencies utilizing the light stimulus while the other performed on the sound stimulus.

RESULTS: The analysis of the tracking scores was accomplished on a frequency basis. An analysis of this type revealed that *S*s tracking the light performed at a lower level than those tracking the sound. An analysis of variance using a repeated-measures design indicates that: (*a*) there is a significant difference in tracking scores attributable to the type of stimulus used (light or sound); (*b*) there is a significant difference in scores attributable to frequency.

CONCLUSIONS: The group tracking the sound stimulus performed significantly better than the light group at all frequencies except the 30 per minute. It was hypothesized that this phenomenon may be a result of the rhythmic properties of the sound stimulus at the higher frequencies. Subjectively, *S*s could not discern a rhythm at the slowest frequency; it was more of a problem in time perception. (Slides)

Hammond, Kenneth R. *see* Boileau, Dorothy N.

Harker, George S. *see* Gogel, Walter C.

Harman, Harry H. (*Personnel Research Branch, TAGO*) **The square-root method and multiple-group methods of factor analysis.**

There are two principal objectives of this study: (*a*) a clarification and coordination of several approaches to multiple-group methods of factor analysis, and (*b*) the application of the square-root method to the multiple-group method of factoring a correlation matrix. A brief historical sketch is presented of the development of both the multiple-group methods of factoring and of the square-root method as a general technique in linear computations.

The basic concepts involved in multiple-group factoring methods are developed, and a system of notation is employed which is both clear and, when possible, closely related to that in the existing literature. In particular, the methods developed by Guttman, Holzinger, and Thurstone are discussed and compared. Thus, while Holzinger considers the multiple-group method suitable only if the correlation matrix is amenable to sectioning into portions of approximate unit rank, and Guttman prefers to group the variables so as to avoid or reduce the problem of rotation of axes, Thurstone conceives of the multiple-group method primarily as another (efficient) technique for initial factoring to provide an orthogonal factor matrix, "which is the starting-point for the rotational problem."

While there are apparent differences in the several presentations of the multiple-group method of factor analysis—and several real differences in the generality and breadth of the theory—there is a basic technique underlying all of them. An outline is presented of a systematic development of such a basic multiple-group method, and the procedure is illustrated with a 9-variable example.

Harmon, Lindsey R. *see* Klieger, Walter A.

Hartman, Ellis B. (*Sound Branch, USN Medical Research Laboratory, USN Submarine Base, New London, Connecticut*) **An investigation into the mel scale of pitch.** (Sponsor, J. Donald Harris)

PROBLEM: Garner's recent finding that *S*s cannot accurately verbalize the magnitude of a loudness ratio questions both the simplicity of the psychological operation of halving and the validity of sensory scales erected on half-judgment data. This paper extends examination of the validity of half-judgments into the field of pitch.

SUBJECTS: 8 normal-hearing adults.

PROCEDURE: *S*s adjusted the frequency of a variable tone to one-half the pitch of a standard. A 50-cps reference tone acquainted *S*s with a sound of approximately zero pitch. Each *S* made five independent half-pitch determinations at each of seven standard frequencies, between 250–9,000 cps. Loudness level was maintained at 60 phons.

RESULTS: The average half-pitch function is a constant proportion of the standard frequency between 1,000–9,000 cps. The resulting pitch scale differs considerably from the Stevens and Volkmann (1940) scale, especially at the higher frequencies. However, an analysis of variance disclosed that the variance estimates associated with frequency, individuals, and interaction between individuals and frequency were highly significant. Further examination of individual data revealed three distinct types of half-pitch function: straight line, slightly sigmoid, and positively accelerated.

CONCLUSIONS: Individuals appear to agree even less on what is half-pitch than on what is half-loudness. This fact strengthens present suspicion regarding the simplicity of halving psychological magnitudes, and further questions the validity of sensory scales erected on half-judgment data. In particular, the pitch scale constructed by averaging the widely divergent data of the present study is believed to have little generality respecting the manner in which pitch changes with frequency. An attempt is at present being made to increase the validity of the pitch-scaling procedure by having *S*s judge equal pitch ratios. (Slides)

Harway, Norman I. (*University of Michigan*) **Some relationships between Einstellung effect and level-of-aspiration behavior.**

PROBLEM: This investigation was concerned with the problem of whether a specific type of rigidity—Einstellung effect—is related to goal-setting behavior. The primary concern was whether *S*s classified as rigid or nonrigid on the basis of susceptivity to set would show different patterns of response on level-of-aspiration tasks. Secondary problems were: (*a*) Does a relationship exist between problem-solving rigidity and "level-of-aspiration rigidity"? (*b*) Do level-of-aspiration measures which differentiate the rigid and nonrigid groups show generality over a number of goal setting tasks?

SUBJECTS AND PROCEDURE: 60 *S*s formed a rigid group ($N = 32$) and a nonrigid group ($N = 28$). They were selected from an introductory psychology class comprising 118 students on the basis of their performance of water-jar problems of the type used by Luchins. Three level of aspiration tasks were administered to each *S* in the final sample. The tasks included the Rotter Aspiration Board, a level of aspiration task involving water-jar problems, and a series composed of hidden word problems. Eleven measures of level-of-aspiration behavior were computed for each *S* on each task.

RESULTS: The level-of-aspiration measures on which the scores of the two groups differed could be separated into two categories: measures relating to variability of behavior and measures relating to height of aspiration. The *S*s of the rigid group exhibited more variable behavior on the level-of-aspiration tasks and tended to set lower goals for themselves. Of the two level-of-aspiration measures of rigidity that are referred to in the literature, one was negatively related to Einstellung effect while the other measure did not significantly differentiate the two groups. The behaviors that differentiated the nonrigid and rigid groups showed some generality over the three level-of-aspiration tasks. (Slides)

Hattwick, Robert G. *see* Baker, Howard D.

Hausman, Howard J. *see* Strupp, Hans H.

Hayes, Keith J. (*Yerkes Laboratory of Primate Biology*) **Nonspatial delayed response in sophisticated chimpanzees.**

PROBLEM: Previous investigators have found that chimpanzees perform poorly on the nonspatial delayed-response (NSDR) test. This has been interpreted as due to innate limitations of the chimpanzee nervous system. The present experiment has investigated the possibility that it is due, instead, to the naiveté of the *S*s, and to the continued use of a single pair of test stimuli.

SUBJECTS: 4 chimpanzees with extensive experience in object-discrimination learning. They were all able to choose correctly on at least 90% of the second trials of new discrimination problems.

PROCEDURE: 2 *S*s were used in a simplified preliminary study, and 2 in the following final procedure: A session consisted of 3 NSDR trials at each of three delays (10, 30, and 60 sec.) plus three 2-trial discrimination problems with each of these intervals as intertrial delays. Each *S* had a total of 100 NSDR trials and 100 discrimination problems at each delay interval. A new pair of test objects was used for each NSDR trial and each discrimination problem.

RESULTS: All *S*s performed well, immediately, on NSDR, though not as well as they did on delayed discrimination. The difference in accuracy between the two procedures was greatest for those *S*s who were disinclined to watch the NSDR baiting. There was a significant negative correlation between accuracy and delay, with both procedures. With 60-sec. NSDR, the 4 *S*s chose correctly on 89%, 85%, 80%, and 68% of their trials.

We are indebted to Mr. Robert Thompson for his assistance in this investigation. (Slides)

Haynes, John G. *see* Peryam, David R.

Haythorn, William W. (*Combat Crew Training Research Laboratory, HRRC, Randolph AFB*) **A study of the distribution of informal group roles on medium bomber crews.** (Sponsor, Robert L. French)

PROBLEM: Previous research has indicated the importance of the behavior of group leaders, and there have been some indications that the conformity of the informal to the formal structure of a group is related to group effectiveness. The present study was designed to test the hypothesis that the *distribution* of informal role behaviors among the formal positions of medium bomber crews is related to crew performance, and to investigate the applicability of analysis of variance technique to the study of role distribution.

SUBJECTS: 16 B-29 crews in training at Randolph Air Force Base, Texas.

PROCEDURE: (*a*) A questionnaire administered to members of B-29 crews asked respondents to indicate which members of their crew behaved in the manners described by the items. (*b*) In the case of 19 crews all eleven members responded to the questionnaire; 16 of these crews were randomly selected for the study. (*c*) Four crews each were assigned to four conditions based on a two-way classification of average crew mission grade and average crew personal liking scores, both dichotomized. These measures were obtained independently. (*d*) An analysis of variance test was computed, using as main effects the average crew mission grades, crew personal liking, formal crew position of the individual described, and 21 items of behavior from the questionnaire. (*e*) Profiles of the distribution of items over positions in the four conditions were constructed, and an attempt was made to isolate profile scores that would be related to performance.

RESULTS: (*a*) All of the main effects and most of the first- and second-order interactions were highly significant ($p < .001$ in most cases). The most interesting of these from the standpoint of role distribution were the mission grade by crew personal liking by crew position interaction, significant beyond the .001 level of confidence. This strongly suggests that the extent to which role behaviors are ascribed to different crew positions is a function of crew personal liking and mission grade. (*b*) Investigation of the distribution profiles supported the hypothesis that the distribution of informal roles among the formal positions is related to crew effectiveness. (Slides)

Headlee, C. P. *see* Coppock, H. W.

Hebb, D. O. *see* Heron W.

Heise, George A. (*Oberlin College*) **Auditory generalization and discrimination in the pigeon.**

PROBLEM: This investigation was designed (*a*) to distinguish between "built in" or unlearned generalizations and discriminations and the gradients produced by differential reinforcement and (*b*) to measure stimulus generalization while the organism's level of discrimination is being continuously measured, and remains constant.

PROCEDURE AND RESULTS: 8 naive pigeons were trained to peck at a key in a Skinner box for a food reward. Auditory stimuli of various frequencies, or white noise, were presented via a loudspeaker in the box.

Part I.—5 pigeons were each subjected to five hours of variable-interval reinforcement in the presence of a 1,550-cps tone. The number of responses to each of a variety of frequencies was then measured during 5-min., 2-min. nonreinforced intervals. There was no significant difference in the number of responses to any of the frequencies presented. Differential reinforcement is required before the pigeon will make a frequency discrimination.

Part II.—4 pigeons were trained to discriminate between one frequency (S^d), reinforced on a variable-interval schedule, and another frequency (S^Δ). Two-minute test trials with various frequencies were then interpolated into the S^Δ intervals, and the number of responses compared with similar 2-min. tests with S^d and S^Δ. The gradients thus obtained fell off very gradually from S^d, with a comparatively sharp drop in the region of S.

Part III.—3 pigeons learned to discriminate 1,550 cps (S^d) from white noise (S^Δ), and the response to various frequencies was then measured as described in Part II. The gradients measured after this discrimination showed a sharp drop in the region of 4,000 cps, the highest frequency tested. Further investigation with filtered noise indicated that the tone vs. noise discrimination was made on the basis of the higher-frequency components in the noise. (Slides)

Hempel, Walter E., Jr., & Fleishman, Edwin A. (*Human Resources Research Center, Lackland AFB*) **A factor analysis of dexterity tests.** (Sponsor, Edwin A. Fleishman)

PROBLEM: Relative to research in other aptitude areas, little attempt has been made to isolate and define the factors primarily involved in manipulative performance. While test development in other areas has been increasingly aimed at the development of relatively "pure" tests, each sampling as nearly as possible one ability category at a time, little research effort in this direction has been exerted in the dexterity domain. In fact, many still refer to manual dexterity as though it were a unitary ability, although there is sufficient evidence to suggest that this is not the case.

This study was one in a series of investigations aimed at the identification of factors contributing to individual differences in manipulative skill.

SUBJECTS: 400 basic airmen.

METHOD: 15 dexterity tests were administered and the intercorrelations among them subjected to a Thurstone centroid factor analysis. Among other tests, the battery included the Minnesota Rate of Manipulation Tests (Placing and Turning), four subtests of the Purdue Pegboard, the O'Connor and Santa Ana Finger Dexterity Tests, and adaptations of some of the MacQuarrie Tests.

RESULTS: The results indicated the presence of five meaningful factors. These were defined as Finger Dexterity (ability to coordinate fingers in manipulating small objects), Aiming (eye-hand coordination under speed conditions), Positioning (ability to make precise localized positioning movements), Finger Speed, and Manual Dexterity (ability to make skillful arm and hand movements in manipulating large objects).

CONCLUSIONS: Indications are that the aptitude area of dexterity may be broken down into several more basic abilities. The data also present evidence of the factorial content and relative complexity of the various tests and provide recommendations for designing more pure tests of the factors identified. Additional research along these lines should provide a functional basis for the definition and classification of abilities hypothesized to account for performance in the dexterity domain.

Hemphill, John K. *see* Sechrest, Lee B.

Henneman, Richard H., Reid, L. Starling, & Long, Eugene R. (*University of Virginia and University of North Carolina*) **The influence of "set" on the identification of visually distorted words.**

Research previously reported (1952) revealed the efficacy of response restriction, achieved through setting cues, in the identification of visually distorted letter patterns. More recent experiments have sought to extend this generalization to conditions encountered in military operational situations. To this end stimulus material and type of response restriction more nearly approximating those found in the operational situation were experimentally manipulated.

PROBLEM: The investigation was designed to answer the following questions: (*a*) Is the probability of a given identification response increased by progressive restriction of the specific categories in which it occurs within a logically organized word population?

(*b*) Is familiarity with the specific words, apart from knowledge of the word categories, a factor in the effectiveness of this "setting"? (*c*) Is there a critical point in the degree of response restriction when further restriction fails to aid word identification?

SUBJECTS: 90 male college students.

PROCEDURE: As a "message" population 48 words, all related to the general subject of sports, were employed. This list of words was divided into progressively narrower categories (e.g., baseball or football, players or technical terms, etc.). The following experimental variables were manipulated: (*a*) type of familiarization (with the word categories alone, or with both categories and specific words); (*b*) degree of response restriction (specificity of the category indicated by a cue word); (*c*) temporal position of the setting cue (before or after stimulus presentation). Degree of stimulus distortion was kept constant. The experimental design called for a $5 \times 3 \times 2$ matrix of cells, three *S*s to a cell.

RESULTS: An analysis of variance performed on the resulting data revealed that both degree of restriction and type of familiarization significantly influence success of identification. It thus appears that even when the population of words is small, highly organized, and familiar, further response restriction by category cues aids the identification of distorted visual stimuli. (Slides)

Heron, W., Bexton, W. H., & Hebb, D. O. (*McGill University*) **Cognitive effects of a decreased variation in the sensory environment.** (Sponsor, D. O. Hebb)

PROBLEM: Mackworth and others have described lapses of attention in a monotonous task that are hard to understand theoretically as well as having considerable practical significance for certain occupations, both military and civilian (e.g., watching a radar screen). It seemed possible that these phenomena were related to a lack of variability in the sensory environment, and the present experiment was designed to study the effects of a more general uniformity of environment for prolonged periods.

METHOD: *S* was put in a quiet room with a couch on which he could remain most of the time for a day or more wearing translucent goggles to eliminate varied visual stimulation, and cardboard cuffs to decrease the range of tactual stimulation. Through a small loudspeaker system *S* could be given problems to solve (anagrams, mental arithmetic) and could report his own observations.

RESULTS: The results, as expected, included a marked boredom, and some *S*s did not remain long enough to permit detection of cognitive changes. With others a significant decrease in efficiency of problem solving was observed both subjectively (*S* reporting difficulty in concentration) and objectively (in time and error scores). An unexpected result was the frequent occurrence of persistent visual imagery, dreamlike in vividness, not reported before in waking normal subjects, though like what is described in some temporal-lobe epileptic attacks. The nearest approach is in the rarely reported hallucinations of the non-psychotic aged (Bartlet, *Brain*, 1951, **74**, 363). It is felt that these results provide further information about the relationship of sensory to central processes.

This work was done under contract X-38 with the Defence Research Board of Canada.

Herrold, Kenneth *see* Fox, David, and Lorge, Irving

Herzberg, Frederick *see* Capwell, Dora F.

Herzberg, Frederick. (*Psychological Service of Pittsburgh and University of Pittsburgh*) **The efficacy of temperament measures in industrial selection.**

PROBLEM: (*a*) To determine the effect on the Guilford-Zimmerman Temperament scale of three different motivations for taking the test—employment, vocational guidance, and academic interest. (*b*) To determine the effect of education on the Guilford-Zimmerman test score distributions. (*c*) To assess the resulting frequency distributions in relation to their practical use for industrial selection.

SUBJECTS: Industrial group (those tested for employment, promotion, or personal audit purposes)—1,204 cases divided into four educational levels. Vocational guidance group—94 college graduates and 56 high school graduates. Academic group—109 University of Pittsburgh students in introductory psychology. All *S*s were male.

PROCEDURE: The frequency distributions between "motivation" groups and education groups were examined for significant differences utilizing the chi-square test.

RESULTS: (*a*) Educational differences significant at the .001 level of confidence were found only within the industrial group. The college graduates were significantly higher than the high school graduates on Ascendance, Sociability, Emotional Stability, Objectivity, and Personal Relations. (*b*) The industrial group was significantly higher than the academic group on the Emotional Stability, Objectivity, and Personal Relations scales. (*c*) As compared to the vocational guidance distributions the industrial group was significantly higher on the General Activity, Ascendance, Sociability, Emotional Stability, and Objectivity scales.

CONCLUSIONS: The results show that "faking" of responses to achieve higher scores occurs in the industrial situation. This faking is greater the higher

the educational level. The skewness of the distributions for college graduate job applicants is so great as to seriously compromise the practical use of many of the G-Z scales for industrial selection. (Slides)

Hess, Eckhard H. (*University of Chicago*) **Maturation and learning in the development of pecking accuracy in chicks.**

PROBLEM: To investigate the importance of "local sign" and of learning in the initial pecking responses of chicks and in the development of their accuracy.

SUBJECTS: 28 chicks, hatched in complete darkness.

METHOD: Hoods, fitted with plastic lenses, were placed over the heads of chicks as they were removed from the darkroom. Ten chicks had flat pieces of Plexiglas as lenses—these were the control animals. Twelve chicks were fitted with flat prisms which caused a 7° displacement of the visual field to the right. Six chicks wore lenses which resulted in a displacement of the visual field to the left. All chicks were initially tested for pecking accuracy by allowing them to peck at small objects embedded in modeling clay. They were then allowed to pick at chick mash. Behavior of *S*s was observed and tests for accuracy were repeated at daily intervals up to five days.

RESULTS: Pecks made by all chicks were somewhat scattered during the first test. However, scattering by control chicks was *about* the object while in the right- and left-seeing chicks this scattering was to the right and left of the object, respectively. In subsequent days this scattering lessened but the degree of displacement in the experimental *S*s remained the same. In other words, no adjustment to the *actual* position of food objects was made by the latter animals.

CONCLUSIONS: (*a*) There is an unlearned sensory-motor organization which allows chicks accurately to localize objects in their visual field. (*b*) Improvement of pecking accuracy is independent of learning in the strict sense and can probably be interpreted in terms of maturation of the motor response. (Slides)

Heyman, M. N. *see* Parrish, J. A.

Heyns, Roger W. *see* Atkinson, John W.

Highland, Richard W. *see* Newman, Slater E.

Highland, Richard W. (*Detachment No. 1, 6563rd Research and Development Group, HRRC*) **Relationship of attitudes to success in radio operator training.**

PROBLEM: Personnel in the Air Force's technical training schools frequently express the opinion that too many of the individuals selected for particular kinds of technical training have attitudes unfavorable toward the training even before they start it. The training personnel feel that these unfavorable attitudes are a major cause of failure in the courses. This experiment was designed to investigate the extent to which preacademic attitudes predict success in radio operator training and the extent to which actual contact with radio operator training induces attitudes related to eventual success in this training.

SUBJECTS: 1,334 airmen sent to an Air Force base to attend radio operator training.

PROCEDURE: From interviews 150 attitude statements were selected for use in an attitude form. The attitude form required the respondent to indicate on a five-point scale the extent to which each attitude statement applied to him. The form was administered to some airmen prior to entering the radio operator course and to others it was given during the fourth week of training. Individual attitude statements which discriminated against a pass-fail criterion of success were identified. Total attitude scores based on these selected statements were computed.

RESULTS: The correlation between preacademic attitudes and subsequent success in the radio operator course was positive but rather low. The relationship between attitudes measured during the fourth week of training and subsequent success was substantially higher. The data indicate that the improvement of the correlation with the criterion for the in-course group results principally from the deterioration, as a result of contact with the course, of the attitudes of airmen who meet with failure experiences during training. It is concluded that to a considerable extent unfavorable attitudes toward training are an effect of failure experience rather than a cause for such failure.

Hiler, E. Wesley, Stotsky, Bernard A., Miller, Daniel R., & Gibby, Robert G. (*VA Regional Office, Detroit, Michigan*) **Rorschach criteria for predicting duration of therapy.**

PROBLEM: To develop a minimal number of Rorschach criteria that would differentiate patients who because of personality factors terminate therapy early from patients who continue.

SUBJECTS: Two groups of male patients were chosen from among cases at the Detroit Mental Hygiene Clinic. The 33 members in one group had remained in therapy for more than 6 months; the 33 in the other group terminated before the sixth session.

PROCEDURE: Cases were drawn from the files. Groups were chosen with a view to controlling sex, race, age, education, proportion of different pathologies, and source of referral. Patients who terminated as a result of such situational factors as change of job or residence were not included in the study.

All Rorschach tests were rescored by one investigator. Fifteen records were independently scored by another psychologist to determine reliability. Tests of significance were computed for both absolute scoring categories and their percentages for the two

groups. Based on significant scoring categories, a minimal number of signs with maximal predictive effectiveness for differentiating the groups was chosen. These signs were cross validated with a new sample of 145 patients.

RESULTS: 1. Comparison of patients who left therapy early and patients who continued for 6 months revealed differences significant at the 5% level of confidence for 28 of the 60 categories.

2. The differentiating signs with maximal predictive efficiency were: positive: R greater than 35 with one m, R between 14 and 35 with two or more m, pure $C\ F + FY + FV\%$ 80 or greater. Those signs correctly predicted group membership in 83% of the first sample and in 66% of the validation. The probability in both samples was less than .001.

Hites, Robert W. (*Ohio State University*) **A questionnaire for measuring leader-identification.**

PROBLEM: Recent work has suggested that groups whose leaders are oriented toward subordinates are both more cohesive and more productive than groups under leaders who are superior-oriented. The present study describes the procedure in developing a questionnaire designed to measure the degree and direction of a leader's identification. A leader is defined as superior-identified if he seeks reward or praise chiefly from his superiors and feels criticism or punishment more from his superiors than from his subordinates. Conversely, subordinate-identified leaders seek reward or praise chiefly from subordinates, and try to avoid criticism from subordinates more than from their superiors.

SUBJECTS: 76 B-29 and B-50 aircraft commanders.

PROCEDURE: A questionnaire comprised of 22 items, descriptive of specific aspects of leader behavior and presumed to be related to the direction of leadership identification, was administered to 76 aircraft commanders. The responses, by item, were factor analyzed.

RESULTS: Six orthogonal factors were identified: (*a*) consideration of subordinates, (*b*) assumption of responsibility by the leader, (*c*) deference to superiors' criticisms, (*d*) personal loyalty to superior group, (*e*) loyalty to subordinate group, and (*f*) recognition of the authority structure of the larger organization. These findings suggest that leader-identification is not a unitary characteristic of the leader's behavior. Future research is required to determine the relationship between each of these six factors and specific measures of group cohesion and group productivity.

This research was supported by the Human Factors Operations Research Laboratories, United States Air Force, under Contract No. AF 18 (600)-27. (Slides)

Hittinger, W. F. *see* McIntyre, C. J.

Hoffman, E. Lee *see* Rigby, Marilyn K.

Hollander, E. P. *see* Rosenberg, Nathan

Hollander, E. P. (*U. S. Naval School of Aviation Medicine*) **Authoritarianism and leadership choice in a military setting.**

PROBLEM: This study sought to determine the relationship between F-scale scores and leadership choice by peers among military officer-indoctrinees. The major hypothesis was that there would be a significant positive relationship between F-scale scores and incidence of leadership choice.

SUBJECTS AND PROCEDURE: Nine independent sections of cadets ($N = 268$) at the Naval School of Pre-Flight were utilized as *S*s. After three months of training, the cadets completed a leadership nomination form for their own section in which they chose three cadets they considered best qualified for the hypothetical position of "student commander," and three they considered least qualified. At about the same time, the cadets were administered the F scale. Leadership and authoritarianism scores were then derived for all cadets.

RESULTS: Correlational and chi-square analyses tested the major hypothesis. A significant negative relationship between authoritarianism and leadership scores was obtained with the r between these variables equal to $-.23$ ($p < .01$) for the total sample. Furthermore, it was found that the leadership *nominees* of cadets "high" or "low" on authoritarianism did not differ significantly in their authoritarianism scores. In both cases, the group nominated "highest" on leadership had a significantly lower score on authoritarianism than the group nominated "lowest." Supplementary analyses focused on the relationship of other pertinent variables to the two main variables: intelligence (ACE Total) correlated significantly with both authoritarianism ($r = -.21$) and leadership scores ($r = +.30$); the significance of the negative relationship between authoritarianism and leadership persisted, however, even when the effect of intelligence was partialed out. Military bearing, as measured by a composite score called OLQ, assigned by officers in charge of the sections, correlated significantly with peer-nominations for leadership ($r = +.55$) but was noncorrelated with authoritarianism. Age, educational level, and previous military experience were not found to be significantly related to either authoritarianism or leadership.

CONCLUSIONS: The major hypothesis was rejected. It was concluded that F-scale scores are relevant to leadership choice among military officer-indoctrinees. Consideration was given to the negative relationship obtained with particular regard to the significance

of social perception and social intelligence in determining adherence to authoritarian ideology and selection for leadership.

Holt, Howard Oliver, & McGuire, Carson. (*Research Division OCAFF, Fort Monroe, Virginia, and the University of Texas*) **The audio-mirror effect upon social learning.**

Miller and Dollard proposed that, in social learning, an individual responds "to cues of sameness and difference produced by stimulation from his own and the model's response." Identification of an audio-mirror effect, where children responded to self-images evoked by sound recordings of previous sequences of behavior, led to a relevant experiment employing a four-group design.

The *S*s were 48 children, comparable in mental age and family background, in two second-grade classrooms of a large school. Experimental A and Control B, each 6 boys and 6 girls, were in one room. Control C and Control D were in another classroom which did not have "education" in terms of the audio-mirror effect by playback of their show-and-tell performances.

Experimental A undertook a pretest, "education," and a posttest. Half the girls and boys responded to 10 experimental pictures (EAT) for pretest and TAT cards for posttest. The procedure was reversed for the other six children. Control B had "education" and posttest, half EAT and half TAT, to estimate pretest influences. Control C completed pretests and posttests as for Experimental A to measure the effect of "education." Control D had only a posttest.

Transformed word production and intraceptive language scores were employed to analyze the data. Predicted differences in word production for EAT and TAT alike were significant by *t* tests. For instance, values for Experimental A and Control B posttests exceeded those for Experimental A and Control C pretests as well as Control C and Control D posttests. Identical results were obtained in an analysis of intraceptive language. Since intraceptive output varied independently from verbal output in covariance analysis, the categories seemed to provide independent measures of quality and quantity of social learning as a consequence of the audio-mirror experience.

In Sears' paradigm of the diadic sequence with anticipatory responses to the environmental event, the self-image would appear as an added expectancy. (Slides)

Holtzman, Wayne H. *see* Doidge, William T., and Iscoe, Ira

Holtzman, Wayne H., & Brown, William F. (*University of Texas*) **Study habits and attitudes in the prediction of academic success.** (Sponsor, Wayne H. Holtzman)

PROBLEM: To develop an easily administered, valid measure of study methods, motivation for studying, and related attitudes of importance in academic success.

SUBJECTS: Development of the Survey of Study Habits and Attitudes (SSHA) has passed through three major stages involving a total of 2,241 freshmen in five different colleges.

PROCEDURES: (*a*) A preliminary questionnaire consisting of 188 items was administered to 22 carefully matched pairs of second-semester freshmen, half of whom were on scholastic probation and half of whom made freshman honors. Item analysis reduced the questionnaire to 102 items which constituted Form A. (*b*) Form A was administered to 285 men and 209 women, all first-semester freshmen, and item responses were analyzed with one-semester grades as the criterion. Two scoring keys, one for men and one for women, were constructed. Cross validation of Form A on 219 men and 176 women yielded correlations with grades of .50 for men and .52 for women. (*c*) Significant items of Form A plus additional revised items were printed as Form B. This final form was given to over 1,300 freshmen for whom one-semester grades later became available as a criterion. One half of these were used for item analysis and refinement of the scoring keys. The other half served as a cross-validation sample.

RESULTS: Validity of Form B was .56 for women and .57 for men. Since the SSHA does not correlate appreciably with the usual scholastic aptitude tests, multiple correlations with grades were computed using both the SSHA and the ACE. In view of the admitted unreliability of one-semester grades, the multiple correlations of .63 for 149 women and .73 for 140 men are highly significant and indicate that the SSHA can contribute appreciably to the prediction of academic success and the guidance of college students. (Slides)

Hood, W. R. *see* Coppock, H. W.

Hornseth, John P. (*Wright Air Development Center*) **Discriminating between the frequency of occurrence of two stimuli.**

The stimuli were two incandescent lamps mounted 3 ft. apart. Each lamp could be independently controlled by *E*. In Exp. A the probability of occurrence of one stimulus was .5 and the probability of occurrence of the other stimulus was either .0, .1, .2, .3, .4, .5, .6, .7, .8, .9, or 1.0. In Exp. B the *difference* between the probabilities of occurrence of the two

stimuli was always .1 (the absolute frequencies used were the same as those in Exp. A). One hundred and fifty-six college students served as *S*s in Exp. A; 166 in Exp. B.

Two experimental techniques were used: (*a*) the method of sequential judgments in which *S* guessed as to which of two stimuli would be presented, and then observed whether or not his guess was correct; and (*b*) a modified method of constant stimulus differences in which *S* judged, at the end of the sequence, whether or not the two stimuli had occurred equally often.

The data obtained from 150 sequential judgments were analyzed in terms of the uncertainty (in bits per trial) of the two information sources. A linear relationship between the judgments and the frequencies of occurrence of the stimuli was observed. The results of Exp. A and Exp. B were extrapolated to estimate the shape of the total discrimination function.

The psychometric function obtained by the modified constant method for both Exp. A and Exp. B approximated the typical phi-gamma function. Two hypotheses will be advanced to account for the differences observed between the results obtained by the two methods. (Slides)

Horwitz, Murray, Exline, Ralph V., Goldman, Morton, & Lee, Francis J. (*Bureau of Educational Research, University of Illinois*) **Effects of group procedures on psychological satiation in members.** (Sponsor, Murray Horwitz)

PROBLEM: To test hypotheses about rate of psychological oversatiation on repetitive group tasks as a function of group characteristics. Group characteristics are defined according to factors affecting difficulty of decision in setting goals for the tasks. Rate of satiation is hypothesized to vary directly with degree of difficulty of goal setting in connection with the assigned activities.

PROCEDURE AND SUBJECTS: Five-man groups of fraternity men repeated a highly monotonous task during two hour sessions. *S*s were asked to set performance goals privately for each trial; degree of satiation and difficulty of decision in goal-setting were measured after each trial. Forty-eight experimental groups were employed in six experimental treatments.

HYPOTHESES: Satiation will set in more rapidly as we go from first to last of the following treatments: (*a*) *S*s work in cohesive groups, receive information about actual performance times, are told strong agreement exists in the way the group sets goals; (*b*) *S*s work in cohesive groups, receive no information about performance, are told there is strong agreement in goal-setting; (*c*) *S*s work with strangers, receive no information about performance, are told there is strong agreement in goal-setting; (*d*) *S*s work with strangers, receive no information about performance, are told there is strong disagreement in goal-setting; (*e*) *S*s work with strangers, receive no information about performance, receive no information about others' goal-setting; (*f*) *S*s work with strangers, do not set goals (checking the assumption that setting goals postpones satiation).

RESULTS AND CONCLUSION: Treatments *a* through *f* significantly affect rate of satiation (as well as difficulty of decision) in order predicted, indicating systematic influence of group characteristics upon satiation. Relation to sociological views concerning *anomie* will be discussed.

This research was conducted under contract with the Office of Naval Research. (Slides)

Hoyt, Cyril J., & Collier, Raymond O., Jr. (*University of Minnesota*) **The mathematical basis of reciprocal averages.**

The method of reciprocal averages was first proposed by Kuder and Richardson (1933) as an optimal item-weighting procedure. It has been used quite extensively in educational and psychological research with inventories and questionnaires. In an effort to simplify the actual labor, Mosier (1946) advanced machine methods for calculation of the different response weightings. Although many of the "optimal" properties of reciprocal averages were cited by Mosier, no mathematical derivation of this specific procedure exists.

This presentation displays that the method of reciprocal averages is identical with a weighting system derived by Frederick Mosteller in a research report of the Harvard Laboratory of Social Relations. Thus, the basis for Mosteller's technique, which, in effect, is the maximization of the correlation ratio, becomes the basis for the method of reciprocal averages.

Hudson, Herschel *see* Walsh, M. Kershaw

Humphreys, Lloyd G. *see* Zimmerman, Wayne S.

Hunt, David E. (*Ohio State University*) **Changes in goal-object preferences as a function of differential expectancy for social reinforcement.**

PROBLEM: From the point of view of Rotter's social learning theory of personality, changes in goal-object preferences are seen as related to (*a*) the amount of reward subsequent to activity with an object and (*b*) the *expectancy* that this reward will occur. Varying expectancy, with amount of reward controlled, it was hypothesized that changes in goal-object preferences would be directly related to expectancy for reward.

SUBJECTS: 40 fourth-grade boys.

PROCEDURE: Preference measures consisted of each *S*'s ranking for ten preselected toys. For every *S* each of four toys selected for experimental reinforcement was assigned in counterbalanced fashion to a different reinforcement condition. New tasks were performed on four successive days, except for two days of no activity with the Condition II toy. Verbal approval for the task was considered the experimental reward. Expectancy for reward was varied by the occurrence or nonoccurrence of the reward according to the following conditions: I, four tasks, 100% reward; II, two tasks, 100% reward; III, four tasks, 50% reward; IV, four tasks, none rewarded.

RESULTS: Mean changes in preference (taken one day following the experimental period) were compared, with the following significant results: I greater than III; III greater than IV. The mean change of II was significantly less than I and not different from III or IV. Preference changes based on one-week retests showed essentially the same trends, but the differences were not so pronounced. Although three of the four conditions led to changes predictable by an expectancy formulation, results from Condition II do not preclude an alternative interpretation based on frequency. Possible improvements on the present method for controlling for frequency are discussed. (Slides)

Hunt, Howard F. *see* Stebbins, William C.

Hunt, Howard F., & Otis, Leon S. (*University of Chicago*) **The effect of carbon disulphide convulsions on a conditioned emotional response.** (Sponsor, Howard F. Hunt)

This experiment compares the effects of CS_2 convulsions and CS_2 inhalations under ether anesthesia on a conditioned emotional response (CER) expressed as a cessation or reduction in lever pressing in a Skinner box upon presentation of the conditioned stimulus. Preliminary research had disclosed that CS_2 convulsions slightly attenuated a strong CER.

First, 44 thirsty male albino rats, 50–70 days old, learned to press a lever for a periodic water reward. Then, during Skinner-box runs, all received either two or three emotional conditioning trials (to criterion), each consisting of a 3-min. presentation of a clicking noise (CS) terminated contiguously with two momentary shocks (UCS) of approximately 1.5 ma. to the feet.

Next, the animals were divided into four equal groups, matched for strength of CER, and treated as follows (N indicates number surviving):

I. Thirteen CS_2 inhalations to the point where convulsions occurred, one the first day and two daily for the next 6 days ($N = 8$).

II. Same schedule of CS_2 inhalations, but under ether anesthesia so convulsions did not occur ($N = 8$).

III. Same CS_2 schedule, but with ether anesthesia at another time to allow convulsions to occur ($N = 6$).

IV. A control group receiving equivalent handling only ($N = 11$). No ether-only group was included because ether anesthesia has no effect on a CER of this strength.

Finally, two days after the last treatment, all animals were tested for retention of CER, which was then extinguished by nonreinforcement on successive daily trials.

Groups I and III, which had convulsions, showed significantly more attenuation in the CER and more rapid extinction than II and IV, which had no convulsions. The convulsions, rather than CS_2 itself, appear to be critical in producing the attenuation in the CER. Theoretical implications will be discussed. (Slides)

Hurvich, Leo M., & Jameson, Dorothea. (*Color Technology Division, Eastman Kodak Company*) **Foveal luminosity and chromatic adaptation.**

PROBLEM: To determine the effects of changes in the chromatic state on the spectral sensitivity of the 1° fovea.

SUBJECTS: Two *O*s with normal color vision.

PROCEDURE: Threshold measurements and heterochromatic matches were made for four chromatic and one achromatic condition. The 37° adapting and surround field was a perceptually unique blue, green, yellow, red, or white in different experiments. Threshold measurements were all made for the same level of adaptation luminance (10 mL). Heterochromatic comparisons were made at three levels of adapting luminance for each of three test luminances.

RESULTS AND CONCLUSIONS: The spectral sensitivity of the fovea is shown to be lawfully related to the state of chromatic adaptation. The specific effects on threshold sensitivity and on heterochromatic comparisons will be presented and discussed. The theoretical implications of these effects will also be discussed. (Slides)

Imber, Stanley D. (*Henry Phipps Psychiatric Clinic, The Johns Hopkins Hospital*) **Short-term group therapy: an experimental investigation of effectiveness for psychotics and a comparison of different therapeutic methods and different therapists.**

The purpose of this investigation was: (*a*) to demonstrate certain benefits of short-term group psychotherapy for psychotic patients, (*b*) to compare nondirective and directive therapy with respect to therapeutic progress and certain aspects of the process of therapy, and (*c*) to determine whether benefits are more dependent on therapeutic techniques, therapist personality, or their interaction.

The *Ss* were 36 male patients in a neuropsychiatric hospital. Each was assigned to one of four experimental groups or to one of two control groups. Each group consisted of six patients. Two experimental groups received nondirective group therapy and two received directive (or lecture) group therapy. All groups met for ten sessions over a five-week span. The control groups met for an identical number of sessions to read and discuss literature; they were led by an experienced librarian.

Two psychotherapists were involved in the study. Each handled two of the four experimental groups, treating one with the nondirective technique and one with the directive.

The *Ss* were given a battery of tests just before the initiation of group meetings and again just following their conclusion. Meetings were recorded by trained observers. Analysis of variance and *t* tests were the major statistical techniques applied to the data.

FINDINGS: (*a*) Short-term group psychotherapy produced improvement in attitude toward the self and other people, outlook regarding the future, feeling state, and appreciation of self-continuity. (*b*) Reading and literary discussion groups did not bring about therapeutic gains. (*c*) There were no consistent differences between nondirective and directive therapy. (*d*) Successful treatment did not depend only on the therapist or only on the kind of therapeutic approach used. Both therapists in the investigation produced patient gains, but neither therapist was equally effective with both techniques.

Iscoe, Ira, & Holtzman, Wayne H. (*University of Texas*) **Tolerance of nonsegregation as a function of cultural and personal factors.**

A Supreme Court decision is pending on the constitutionality of enforced segregation at all levels of state-supported education. The present study concerns the attitudes of college undergraduates toward segregation and examines sociocultural variables as related to such attitudes.

SUBJECTS: A carefully selected random sample of 539 male undergraduates at the University of Texas.

PROCEDURE: A pretested scale composed of items dealing with attitudes toward nonsegregated education was attached to a comprehensive printed questionnaire given anonymously as part of a larger study. Using Guttman's scalogram procedures, a true scale was established with a coefficient of reproducibility of .90. High and low groups were formed on the basis of scores on the Tolerance of Nonsegregation Scale.

RESULTS: 6% of the sample consistently approved of maintaining segregation, while 26% favored its complete abolition. Although 80% favored nonsegregation at the graduate level, only 30% approved of nonsegregation at the grade school level. High and low tolerance scores yielded highly significant differences when related to such variables as father's income, parental discipline, age, year in college, church attendance, religious affiliation and beliefs, geographic locations, fraternity membership, course of study, and standards of moral conduct. A very striking positive relationship was obtained between level of tolerance and contact with the Negro under nonsegregated conditions. This is consistent with the results of previous investigations.

In general, an individual who deviated from the culturally accepted pattern was more likely to favor nonsegregation than an individual who conformed to the traditional values of his family and community. (Slides)

Izard, Carroll E. *see* Rosenberg, Nathan

Izard, Carroll E. (*Tulane University*) **Projective responses of paranoid schizophrenic and normal subjects to photographs of human faces.** (Sponsor, John T. Bair)

PROBLEM: Differentiation of paranoid schizophrenic and normal *Ss* by their projective responses to photographs of human faces.

SUBJECTS: 30 paranoid schizophrenics and 30 normals.

PROCEDURE: From 1,000 photographs of unselected normal adults, 16 (8 of each sex) were selected as the experimental series. Free-association type responses to the 16 photographs were obtained from each *S*. Following this, two different test techniques were utilized to obtain *Ss*' preference ratings of the photographs.

Nine judges utilized a 7-point scale to rate the free-association responses with respect to the degree to which they expressed favorable or unfavorable feelings toward the pictures. The judges also scored responses A (ambivalent) if they expressed contradicting favorable and unfavorable feelings. Finally, on the basis of the free-association responses, the judges classified *Ss* as schizophrenic or normal.

RESULTS: 1. Analysis of variance of judges' scale ratings revealed: (*a*) that paranoid schizophrenics expressed significantly more unfavorable feelings toward the pictures than did normals; (*b*) that the pictures evoked significantly different responses; (*c*) that not only diagnostic groups but individuals within groups were effectively differentiated; (*d*) that reliability of the experimental instrument is at least significantly greater than zero.

2. Analyses of variance of normalized A scores showed that paranoid schizophrenics gave significantly more ambivalent responses.

3. The number of *Ss* correctly diagnosed by the judges was statistically significant.

4. Analysis of data from the two preference tests revealed no differences in the groups' preferences for the pictures. Further analysis showed that schizophrenics were significantly less consistent in their preferences from test to test than were normals.

CONCLUSIONS: Paranoid schizophrenic and normal *S*s were differentiated in terms of: (*a*) favorableness of feeling expressed, (*b*) ambivalence of response, (*c*) consistency of preference, and (*d*) diagnostic significance of the over-all protocol.

The implications of the results are discussed.

Jackson, Jay M. (*Research Center for Group Dynamics, University of Michigan*) **The relation between attraction, being valued, and communication in a formal organization.**

PROBLEM: Recent laboratory experiments with small groups have found that an individual's attraction to his group is related to many aspects of his behavior in that group. This paper reports a field investigation into the correlates of a person's attraction to his membership group within a complex formal organization.

As a result of an exploratory study, the following hypotheses were formulated to guide the research:

1. In any group or organization, the greater an individual's attraction to the group, the more he will be valued (perceived by the other members as making a positive contribution to the group's goals).

2. The more highly an individual is valued by the members of his group, relative to how much he is valued elsewhere in the organization, the greater will be his attraction to his own group.

3. The positive relationships hypothesized in (1) and (2) will increase with increased communication, and decrease with decreased communication.

PROCEDURE: The research was conducted in three stages, one month apart, using the entire staff—72 members—of a child welfare agency. The study utilized a number of paper-and-pencil instruments: alphabetical checklists of the members to discover the subgroup structure and communication patterns of the organization, Coombs-type scales to measure the *S*s' attraction along two different dimensions, and sociometry to discover how much each person was valued by the others.

RESULTS: The four original hypotheses were supported by the data at acceptable levels of significance. The following qualifications are stated:

1. Hypotheses apply more to professional than to nonprofessional workers.

2. Relationships are greater when attraction is measured in terms of perceived benefit rather than in terms of enjoyment of working with other group members.

3. For supervisory personnel, benefits received elsewhere in the organization do not decrease attraction to a subgroup. (Slides)

Jacobs, Durand F. *see* Pearl, David

Jacobs, Durand F., & Pearl, David. (*VA Hospital, Fort Custer, Michigan*) **The relationship of sociometric choice patterns to visual perception thresholds.**

PROBLEM: The relationship between the social structure of a hospital group and perceptual thresholds for various group members was investigated by means of a sociometric and tachistoscopic study of responses made to photographs of the participants. The hypotheses were that among individuals in daily social interaction, those who made highly similar sociometric choices would tend to like each other, while those making highly dissimilar choices would dislike each other. Also, individuals in the latter category would tend to be more mutually threatening than those in the former, and therefore would show faster recognition times for each other.

SUBJECTS: 39 adult male patients on a privilege ward at a neuropsychiatric hospital.

PROCEDURE: Each *S* rated 38 photos of his wardmates on a continuum of social preference according to *Q* technique. *S*s' sociometric choices were intercorrelated, and 40 pairs with the highest positive correlations were compared to 40 pairs with the greatest negative correlations. Each *S*'s own photo and a group of his "most-liked," "least-liked," and "neutral" choices were presented tachistoscopically, and recognition times were determined.

RESULTS: A highly significant relationship (PO_1) was found between mutual liking and similar sociometric choices, and between mutual dislike and dissimilar sociometric choices. The *S*s who made highly dissimilar sociometric choices showed recognition times for each other which were significantly faster (PO_5) than their median recognition times.

CONCLUSIONS: Similarity or dissimilarity of sociometric choices, mutual like or dislike, and perceptual sensitivity are highly interrelated. Findings are discussed with respect to the construct of vigilance.

Jameson, Dorothea *see* Hurvich, Leo M.

Jeffress, Lloyd A. *see* Blodgett, Hugh C.

Jenkins, Herbert M. (*Massachusetts Institute of Technology*) **The stimulus control of approach in the male rat.**

PROBLEM: Mating and other forms of social behavior in the rat are commonly preceded by approach and investigation. In this research, a new technique is applied to determine the effect of limited tactual contact

with another male rat on the persistence of approach behavior.

SUBJECTS: 8 adult male albinos, isolated after weaning at 21 days, and sexually inexperienced.

METHOD: In order to control the occurrence of contact with a stimulus rat, the range of movement of an approaching rat was limited by a tether. An adjustable lead with a small weight at one end was passed through a pulley system and attached permanently to the skin of the rat's back with the aid of a surgical operation. Movements of the stimulus animal were restricted in a similar manner.

Each *S* with lead attached remained in an enclosure throughout an experiment—a period of 3 to 4 weeks. After preliminary adaptation, a panel forming one side of the enclosure was raised for 30-min. periods to permit approach to the stimulus rat. The time spent in a position as close to the stimulus animal as the lead permitted was recorded automatically, and served as the principal measure of the strength or persistence of approach behavior. Each rat served as its own control in a series of approach periods in which the stimulus rat was (*a*) not presented, (*b*) placed just beyond the reach of the approaching rat, or (*c*) placed to permit the rats to make contact in the head and neck region.

RESULTS AND CONCLUSIONS: The main results obtained in a series of closely related experiments were as follows: (*a*) The time spent in approach was clearly increased by the presence of a stimulus rat with or without opportunity for contact. (*b*) Permitting limited contact approximately doubled the amount of approach in the 30-min. period. (*c*) The tendency to approach decreased systematically during the approach period and recovered as a function of the time interval separating approach periods.

The implication of these results for the analysis of mating and exploratory behavior will be discussed. (Slides)

Jenkins, James J. *see* Russell, Wallace A.

Jensen, Barry T. *see* Bornstein, Harry

Jetter, Walter W. *see* Lindsley, Ogden R.

Johnson, A. Pemberton, Angoff, William H., & Cayne, Bernard S. (*Educational Testing Service*) **Developing a shorter and more useful pre-engineering test.** (Sponsor, A. Pemberton Johnson)

PROBLEM: (*a*) To determine the desirable features of a pre-engineering test shorter than the Pre-Engineering Inventory, (*b*) to assemble a test with as many as possible of the desirable features, and (*c*) to provide useful norms and estimates of reliability and validity.

NORMS POPULATION: 610 members of the entering engineering freshman class at an Eastern engineering college.

PROCEDURE: During the academic year 1949–1950 a number of informal discussions were held with users and non-users of the Pre-Engineering Inventory to determine the desirable features of a shortened test. In addition to satisfactory validity and reliability coefficients the desired features were considered to be as follows: testing time not greater than 90 minutes, and ease of administration and scoring. The following types of data were available as aids in the assembly of two parallel 80-minute experimental forms: reliability and validity coefficients and intercorrelations for subtests and for the composite score collected at 12 engineering colleges, item validity coefficients obtained at one large engineering college, and speededness data. These two forms were administered during the September 1950 orientation week in counterbalanced order to random halves of an entering engineering freshman class of 610. The previous year's class had taken the Pre-Engineering Inventory. Both classes took the College Board Scholastic Aptitude and Physics Achievement Tests which were used as "anchor tests" in equating scores on one of the experimental forms to scores on the Pre-Engineering Inventory. That form was published in July 1951 as the Pre-Engineering Ability Test.

RESULTS: A Kuder-Richardson formula (20) reliability of .90 was found, based on one-half the class. A study at Carnegie Institute of Technology by Roland C. Moore reports a validity coefficient against first-semester weighted averages there of .68 for 260 entering engineering freshmen to whom the 80-minute Pre-Engineering Ability Test was administered.

Jones, Allan W. (*Ohio State University*) **1923–1953 and age-youth comparisons with the "X-O" Tests.** (Sponsor, Sidney L. Pressey)

The Pressey X-O Tests are essentially an inventory form for quick check as to attitudes and values. In 1923 they were given to 1,754 cases from the 6th grade through the college senior years, in 1933 to 1,080 college students, in 1943 again from grade 6 through college. In 1953 they have been given again to 700 college students, also to parents of certain of these students, a grandmother's club, an older church group, and certain women's clubs—a total of some 300 older people who were young when the tests were given earlier.

Test one consists of 25 lines each naming five borderland wrongs, as smoking, flirting; the *S* is to cross out what he thinks wrong and circle what he thinks most wrong in each line; the second test deals similarly with worries, and the third with interests. Decade comparisons from 1923 to now show sys-

tematic trends, as liberalizing of attitudes regarding what is wrong; and item analyses specify the nature of these changes. There are relations of parent to child in attitudes, and of 1953 grandmothers to attitudes of young people in 1923, also interesting socio-economic differences between the older groups.

Such comparisons over a period of time and from one generation to another are believed of much promise for the study of maturity in relation to cultural change.

Jones, Edward E. (*Harvard University*) **The role of authoritarianism in the perception and evaluation of a prospective leader.**

PROBLEM: To investigate experimentally the role of a personality variable (authoritarianism) in the formation of an impression of another.

SUBJECTS: 100 "low authoritarians" and 95 "high authoritarians" were selected from an F-scale distribution of 426 scores made by Navy recruits.

PROCEDURE: Groups composed equally of highs and lows heard information about a recruit platoon leader presented by a recorded mock interview, and were asked to rate the interviewee (the stimulus person or SP) on a 30-trait rating scale. The information presented was varied along two dimensions: personal power ("Forceful" or "Passive" SP) and leadership attitude ("Autocratic" or "Democratic" SP). A given experimental group thus heard one of the following information combinations: Forceful Autocrat, Forceful Democrat, Passive Autocrat, or Passive Democrat. Sequence of presentation and number of ratings were varied.

RESULTS: 1. The lows are generally more sensitive to both dimensions presented, rating the Forceful SP as more powerful and the Passive SP as less powerful than the highs; rating the Democratic SP as more democratic and the autocratic SP as less democratic than the highs.

2. The highs are generally more positive in their evaluation of the SP (regardless of which version they hear) than the lows.

3. The highs prefer autocratic and the lows prefer democratic leadership.

4. Personal power is of greater importance in evaluating a minor military leader than his leadership attitude for all *S*s.

5. Studies of trait intercorrelations show consistent differences between highs and lows in their organization of an impression.

CONCLUSION: There are systematic differences between the impressional ratings made by high and low authoritarians, but many of these differences are not consistent with predictions drawn from "authoritarian personality theory." This study was performed under a contract with the Office of Naval Research.

Jones, Edward R., & DuBois, Philip H. (*Human Factors Operations Research Laboratories and Washington University*) **The use of expert judgments in the development of flight simulator training courses.**

PROBLEM: Flight simulators are complex ground-training devices which duplicate many of the physical characteristics of a specific aircraft type. Special controls permit the introduction of numerous emergency conditions. A simulator's training value is dependent upon the appropriateness of the procedures included in the course. Therefore, an important step in the development of a course is to determine what procedures are most important for safe and efficient flight performance. In many situations, the only usable source of such information is the experience and resulting judgments of those who best know the particular aircraft.

SUBJECTS: 28 flight crews scheduled for B-50 simulator training.

PROCEDURE: A forced-distribution method was used which required the *S*s to indicate, using a list of 30 procedures, the training needs of the flight crews (aircraft commanders, pilots, and flight engineers) in their squadron. This forced-distribution method was selected because of its ease of administration within the operational situation and because it assures that the crews will differentiate between the items.

RESULTS: The average rater-to-rater correlations and the reliability coefficients were relatively high. Judgments differentiated on the basis of crew position, type of wing, and experience did not vary to any large extent from group to group. A high correlation (.787) was obtained between the aircraft commanders' judgments of training needs of the flight crew and a measurement of their performance in the simulator. A moderate correlation (.470) was obtained between the pilots' judgments and their performance in the simulator.

CONCLUSIONS: This systematic approach using expert judgments seems to have possibilities for use in developing simulator courses. For new type aircraft, judgments will be the only complete source of information on training needs. Even for older aircraft, judgments can be used as a quickly obtainable source of information to supplement such data as accident, near-accident reports and job analyses.

Jourard, Sidney M., & Secord, Paul F. (*Emory University*) **The appraisal of body-cathexis: body-cathexis and the self.**

PROBLEM: Personality theorists and researchers have largely ignored the phenomenal body. The present study offers a method of appraising body-cathexis (feelings about the body) together with evidence concerning its significance as a personality variable.

PROCEDURE: A body-cathexis scale (BC) comprising 46 body aspects was developed through preliminary testing. Each *S* signified on a five-point scale the degree of acceptance or rejection of each item. A similar self-cathexis (SC) questionnaire was developed for 55 common self-traits.

The following hypotheses were formulated and tested: (*a*) Feelings about the body are commensurate with feelings about the self. (*b*) Negative feelings about the body are associated with anxiety, in the form of undue autistic concern with pain, disease, or bodily injury. (*c*) Negative feelings about the body are associated with feelings of insecurity about the self.

The BC-SC scales and Secord's Homonym Word-Association Test (H-test) for the measurement of anxious body-preoccupation were administered to 70 college males and 56 college females. The BC-SC scales and Maslow's Security-Insecurity (S-I) scale subsequently were administered to an additional group of 47 college men and women.

RESULTS AND CONCLUSIONS: Covariation between body-cathexis and self-cathexis was demonstrated by significant *r*'s of .58 and .66 between BC and SC for men and women respectively. The association of negative body-cathexis with anxiety was demonstrated by statistically significant correlations between (*a*) the H-test and BC, for women (−.41); (*b*) the H-test and an anxiety-indicator score (A-I) derived from the 11 most negatively cathected body items (males: −.37; females: −.40). S-I correlated significantly with BC (−.37) and A-I (−.41), signifying that negative feelings about the body are related in magnitude to a degree to feelings of insecurity. These data appropriate that body cathexis can reliably be applied to time, and that it is a significant variable in personality study.

Kahn, Robert L. (*Survey Research Center, University of Michigan*) **A comparison of two methods of collecting data for social research: the fixed-alternative questionnaire and the open-ended interview.**

PROBLEM: The aim of the research was to test the relative effectiveness of the intensive, "open-ended" interview and the fixed-alternative, written questionnaire for collecting data from a population of industrial workers regarding various aspects of the work situation. We predicted greater withholding and distortion of communication in the interview than in the questionnaire. We further predicted that such differences between questionnaire and interview would be maximized for items demanding approval or criticism of superiors and company policy.

SUBJECTS AND RESEARCH DESIGN: These hypotheses were tested by means of a study design which was part of a research project requiring the collection of questionnaire data from 20,000 employees of a large manufacturing corporation. A sample of 206 of these employees was selected with known probability and designated for personal interview. Of this sample, half the employees were interviewed prior to filling in the questionnaire, and half subsequently. The questionnaires and interviews were matched by means of personal characteristics, and the hypotheses were tested by a comparison of the questionnaire and interview responses for identical individuals.

RESULTS: (*a*) Mean agreement between questionnaire and interview responses varied from 82% for "low-threat" items to 37% for "high-threat" items. (*b*) The questionnaire showed significantly fewer "management stereotypes" and more expressions of criticism and dissatisfaction. (*c*) The proportion of non-response did not differ significantly, although there was a tendency toward a lower rate in the questionnaire. (*d*) The incidence of extreme responses was greater for the questionnaire. (*e*) The ability to predict criterion scores (productivity) was greater for the questionnaire.

CONCLUSIONS: (*a*) The factor of anonymity appears to be of considerable importance, at least for certain populations and situations. (*b*) There are systematic response patterns which reflect unwillingness to communicate. (*c*) The advantages and disadvantages of questionnaire and interview appear to be relative to the situation and population.

Kallejian, Verne. (*Human Relations Research Group, Institute of Industrial Relations, University of California, Los Angeles*) **Some aspects of the relationship between "understanding" and "acceptance" of others.**

PROBLEM: In clinical practice it is generally assumed that optimal clinical understanding can only occur when the therapist (*J*) is free from strong positive or negative feelings toward the patient (*S*). The hypothesis is that *J*'s actual degree of understanding of *S* is a curvilinear function of *J*'s acceptance or rejection of *S*.

PROCEDURE: 98 *S*s, divided into five groups of approximately 20 persons (delegates to the Western Training Laboratory in Group Development), were tested on the second and twelfth days of a training program, as follows: (*a*) Each *J* ranked every *S* in his group in order of "liking." (*b*) Each *J* selected three *S*s in the group toward whom he felt best understanding. (*c*) *J* completed a pretested, 32-item, forced-choice inventory describing himself, and also attempted to predict the responses of the three selected *S*s to this inventory.

Product-moment correlations between predicted responses and actual responses, translated into *z* scores,

were used as measures of understanding and inserted in the matrix of sociometric choices at the point where *J* indicated his degree of liking of the *S*. The mean understanding score for each rank position was obtained for each group for both administrations. The resulting matrix of scores is analyzed and discussed.

RESULTS: The values of the mean understanding scores are distributed normally with respect to sociometric rank, the highest mean in the center of the ranking and the lowest mean at the highest and lowest ranking. The frequency of entries by rank position is linear, the highest number of entries at the high rank and the smallest number at the lowest rank. At a statistical level of significance, the following conclusions are supported.

CONCLUSIONS: The actual degree of understanding between *J* and *S* is a curvilinear function of *J*'s acceptance or rejection of *S*. The perceived degree of understanding between *J* and *S* is a linear function of *J*'s acceptance or rejection of *S*.

Kaplan, Harry, Berkhouse, Rudolph G., & Tye, V. M. (*Personnel Research Branch, TAGO*) **The construction and analysis of a battery for measuring fluency in English as a foreign language.** (Sponsor, Harry Kaplan)

PROBLEM: (*a*) To construct tests of ability to understand spoken English and to speak English, for use among soldiers to whom English is a foreign language. (*b*) To determine the validity of the following methods of measuring English fluency: a test to measure ability to speak English, a paper-and-pencil test of reading ability, a test to measure understanding of spoken English. (*c*) To establish cut-off scores which produce consistent results when used for determining whether Insular Puerto Rican soldiers possess sufficient English fluency for assignment to English-speaking units.

SUBJECTS: 97 Insular Puerto Ricans who were taking a special course in English and pre-basic military training; 85 of the same subjects while they were in basic training.

PROCEDURE: Experimental tests and English fluency rating scales were constructed. During pre-basic training, the tests were administered to trainees and criterion data, consisting of English fluency ratings, were collected from supervisors. Follow-up administration of rating scales was made during basic training. Validity coefficients were determined. Cut-off scores were established on the basis of plots of mean criterion scores against final test scores.

RESULTS: Validity coefficients of the tests in the final battery were .62, .68, and .64 for understanding, speaking, and reading tests, respectively, for the pre-basic period, and .51, .46, and .48 for the follow-up period. Cut-off scores remained substantially unchanged from pre-basic to follow-up period.

CONCLUSIONS: Tests of ability to speak English, and to understand spoken English, as well as a paper-and-pencil test of English reading ability, have validity for predicting the English fluency level of Insular Puerto Rican soldiers after special English training.

Cut-off scores computed separately on the basis of ratings made by different raters, and under different conditions are consistent in discriminating between men who have achieved a satisfactory level of English fluency and those who have not.

Kappauf, William E. *see* Bakan, Paul

Kashdan, Laurence. (*Civilian Personnel Research Branch, USAF*) **A sign test of validity.** (Sponsor, Joseph G. Colmen)

PURPOSE: Small samples plus interrater and interjob differences are often unavoidable in test development studies and restrict the precision of subjective criterion evaluations. To control these factors there is a tendency to structure the conditions within the rater rather than the situation outside him to increase the accuracy of his judgment. Through appropriate sample design an attempt is made here to structure the outside conditions and to remove interrater and interjob variance by treating differences between workers within groups rather than absolute test and criterion measures.

SUBJECTS: 110 supervisory employees at an Air Force base used as subjects in th[illegible] development of a supervisor selection battery.

PROCEDURE: A sample consisting o[illegible] groups of first-line supervisors of skilled worke[illegible] drawn. The members of each group were ranked [illegible] and [illegible] of supervisory ability by second- and third-line s[illegible] Thus, for any two persons ranked, one can be i[illegible] fied as "better" and one as "poorer." All possible p[illegible] were so determined. A battery of experimental tests was administered to all *S*s, and three of these for which predetermined keys existed were selected for the present analysis. The difference between test scores of individuals was determined for each pair. These test score differences were regarded as the independent variable, and proportion of times the test "correctly" ordered each pair of individuals was the dependent variable.

RESULTS: An increasing monotonic curve was obtained relating test-score difference to proportion of "correct" pairings made by the test. The chi-square test indicated deviation of this curve from chance expectation significant beyond the .02 level of confidence. Aggregate proportion of correct pairings was .69, significant beyond the .001 level. Comparisons with correlation coefficients obtained using a 9-point rating scale as the criterion are discussed.

Kates, Solis L., & Diab, Lutfy. (*University of Oklahoma*) **Authoritarian ideology and child-rearing attitudes.** (Sponsor, Solis L. Kates)

PROBLEM: Does greater acceptance of authoritarian ideology mean greater acceptance of such child-rearing attitudes as dominance, possessiveness, and ignoring? If this broad hypothesis is confirmed, then exclusive importance cannot be attributed to prevalent ideological stimulation as the responsible factor in authoritarian ideology. Thus the acceptance of authoritarian ideology will concomitantly involve the acceptance of those child-rearing attitudes contributing later to authoritarian ideology in adults. Other hypotheses include: (*a*) female *S*s will show more significant relationships than male *S*s between authoritarian ideology and dominant, possessive, ignoring child-rearing attitudes, and (*b*) *S*s high in authoritarian ideology will have child-rearing attitudes more similar to those of problem parents than will *S*s low in authoritarian ideology.

SUBJECTS: 61 male students and 66 female students in liberal arts college and 45 female nursing students were tested. All minority group *S*s were excluded.

PROCEDURE: The California E, F, PEC scales and an intolerance of ambiguity scale together with the USC Parent Attitude Survey were administered. The *S*s described in their own words their strengths and weaknesses as future parents.

RESULTS AND CONCLUSIONS: The results confirmed the broad hypothesis that authoritarian ideology and child-rearing attitudes were related. Ethnocentrism, ambiguity intolerance were related to dominant child-rearing attitudes. Authoritarianism, ethnocentrism, and ambiguity intolerance were related to possessive attitudes. Ignoring attitudes were not related to authoritarian ideology in females. The other hypotheses were corroborated. Authoritarianism and ethnocentrism were related to dominant, possessive attitudes in females, while in males only authoritarianism and ignoring attitudes were related. High ethnocentric, authoritarian, and ambiguity-intolerant *S*s manifested child-rearing attitudes more indicative of problem parents than low *S*s. Finally, qualitative analysis differentiated high from low ethnocentric subjects with regard to self-described future parental qualities: love and discipline.

Katz, Melvyn Myron. (*New York University School of Education and VA Hospital, Northport, New York*) **A personality study of schizophrenics with peptic ulcer.**

PROBLEM: To determine whether there are personality differences distinguishing schizophrenics who had developed peptic ulcer in the course of their hospitalization and schizophrenics with no history of gastrointestinal dysfunction.

SUBJECTS: 60 male schizophrenic patients between 44 and 64 years of age; experimental group of 30 with a supplementary diagnosis of peptic ulcer and control group of 30 with no history of gastrointestinal disorders. Groups were equated for diagnosis, age, educational level, and length of hospitalization.

PROCEDURE: Each patient was given a battery of projective tests consisting of the Rorschach, the Draw-A-Person Test, and a selected series of ten TAT cards. The statistical techniques of *t* and chi square were used where applicable to determine significance of differences.

RESULTS: 1. On the Rorschach significant differences existed between the groups in that the ulcer patients tended to utilize both inner and outer controls in coping with impulses and environmental demands while the nonulcer group generally lacked these mature controls.

2. On the TAT aggressive tendencies in ulcer patients were corroborated and depressive features were noted. For the nonulcer patients withdrawal tendencies accompanied other "loss of control" characteristics.

3. The Draw-A-Person Test revealed trends indicative of less evasion and greater cognizance of reality in the ulcer patients.

CONCLUSIONS: 1. Personality manifestations differentiating between the groups are: (*a*) the availability of controls in the ulcer group whereby emotional impulses are channelized into proper forms for mature affective adaptation; (*b*) a tendency in the ulcer group to repress rather than overtly express aggressive feelings where reality demands would be violated; and (*c*) a tendency for greater awareness of and rapport with reality in the ulcer group.

2. Schizophrenic patients with peptic ulcer tend to be better adjusted and less regressed than nonulcer schizophrenics.

3. While group differences were present in the management of defensive systems, no specific "ulcer personality type" was identifiable.

Kell, Bill L. *see* Sutter, Everett L.

Kendler, Howard H. *see* Kendler, Tracy S.

Kendler, Tracy S., Cook, John Oliver, & Kendler, Howard H. (*New York University*) **An investigation of the interacting effects of repetition and audience participation on learning from training films.**

PROBLEM: To determine whether increasing the relevancy of response to a training film by means of overt audience participation increases the effectiveness of repetition of the film.

PROCEDURE: Seven groups of *S*s, consisting of four high school classes each, were shown experimental versions of a standard military film on conventional

map signs. One group saw only the introductory section of the film. The remaining six groups saw the introductory section plus either one, two, or three consecutive presentations of a review. Three of the six groups were instructed before the review to call out the names of the map signs as they appeared on the screen. The other three groups received noncommittal instructions with reference to audience participation. The *S*s were tested on the map signs immediately after the film and again four weeks later.

RESULTS: (*a*) Increasing the number of reviews produced higher scores on initial performance and retention, with the increments becoming smaller as reviews increased. The difference between no review and one review was statistically significant for both measures. The difference between one and three reviews was statistically significant only for initial performance scores. (*b*) Overt oral audience participation produced increases on both measures, but the difference was significant only for initial performance. (*c*) There was no interaction between repetition and participation.

CONCLUSIONS: (*a*) One review increases learning. Repeating reviews continues to increase learning but the increments decrease as repetitions increase. (*b*) Overt participation during a review increases the amount learned. The size of the increase tends to be fairly constant for every repetition of the review up to at least three. (*c*) The relative superiority of the techniques of repetition and audience participation tend to decrease with time, as does the amount learned. To counteract this effect and maintain the advantages of superior educational techniques intervening practice is recommended.

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Kimble, Gregory A., & Guttman, Norman (*Duke University*) **One-trial discrimination reversal in the white rat.**

PROBLEM: In discrimination-reversal experiments, *S*s are first trained to respond to one member of a pair of stimuli. When this discrimination is well established, the previously negative stimulus becomes positive and *S* learns to respond to it. When this second problem is mastered, *S* is switched back to the first, and so on. After long practice, primates can solve the successive problems in one trial. Experiments with rats have shown improvements in performance, but one-trial reversals have not been obtained. The reason for this may be that a constant number of trials has typically been used instead of requiring *S* to meet a criterion. This experiment used a criterion and was successful in obtaining one-trial discrimination reversal.

SUBJECTS AND PROCEDURE: 9 rats were carefully habituated to the apparatus and then trained on a series of position discriminations. On the first discrimination problem the rats were run against their position preference. They were given 4 trials a day until they met a criterion of 11 correct responses in 12 trials. Then the problem was reversed. Each animal learned 10 such problems. The apparatus used was a typical discrimination box. To increase the rate of learning the two sides of the apparatus were distinctly different.

RESULTS: Beginning with Problem 7 all rats had learned to make the discrimination reversal after a single experience with the negative stimulus. Even before this, curves of individual rats show an insight-like form.

CONCLUSIONS: When the situation is properly controlled, one-trial discrimination is displayed by the white rat. No particular learning theory seems to be embarrassed by these results. They demonstrate a phenomenon stressed by the Gestalt psychologists; but Hull's most recent account of his theory handles them, too. They are important in eliminating what seems to have been an overemphasized phylogenetic factor and in throwing some additional light on the effect of nonreinforcement.

Klare, G. R., Gustafson, L. M., & Mabry, J. E. (*University of Illinois*) **The effect of style difficulty on reader comprehension and acceptability of technical training material.**

This study was one of a series on a 1,206-word written lesson on an aircraft engine (first half—"Induction System"; second half—"Cooling System"). Only structure (style) was varied, technical experts judging content and technical terms unchanged.

Three styles were used, "Easy" (about ninth-grade level by three "readability" formulas), "Present" (twelfth grade), and "Hard" (college graduate). Nine versions were developed, three "unsplit" (E, P, H) treating both halves in one style, and six "split" (EP, PE, EH, HE, PH, HP) treating each half separately.

The *S*s were 989 male indoctrination trainees (109 cases in PE, 110 in all other versions). After a 20-minute reading, readers of both split and unsplit versions answered questions asking: (*a*) if a difference in lesson halves was noticed (on the basis of how written, not what about); (*b*) if yes, which half was thought easier to read; and (*c*) which half was liked better. Fifty multiple-choice comprehension items followed.

Analysis showed content paramount in that the "Cooling System" was thought easier and liked better

than the "Induction System" in whatever style presented ($.001 < p < .01$). Since split versions permitted equating for content, significance of percentage difference analyses were computed and indicated Easy thought easier than Present ($p = .06$) or Hard ($p < .001$) and liked better ($p = .11$ and $p < .0001$, respectively), and Present thought easier than Hard ($p = .01$) and liked better ($p = .05$).

Analysis of variance (3×1) of comprehension scores on unsplit versions yielded an F of 6.97 ($.001 < p < .01$). Easy-Present t was significant at .01, Easy-Hard at .001, and Present-Hard at .07 points. Two 3×3 analyses of variance (one on first, one on second halves) yielded style F's significant beyond the .01 level and nonsignificant position and interaction F's. Item analysis showed Easy readers excelled Present and Hard on most items (using a sign test, $p < .01$ and $p < .001$, respectively), and Present excelled Hard ($p < .001$).

Klieger, Walter A., & Harmon, Lindsey R. (*Personnel Research Branch, TAGO*) **Improvement in validity of an Army personality inventory by means of a suppressor key.**

PROBLEM: To determine whether or not the validity of a personality test can be increased by means of a suppressor key, i.e., a key which correlates substantially with a valid variable but zero with the criterion.

SUBJECTS: Two samples of 1,806 and 1,469 Army enlisted men.

PROCEDURE: A personality test adapted from the Minnesota Multiphasic Personality Inventory was administered ostensibly as part of the classification testing procedure. An item analysis was made within each sample using a criterion of reason for discharge, dichotomized as relatively "favorable" and "unfavorable." In each sample, a key of the most valid items was selected. Both samples were scored with each "valid key" to obtain "back" and "cross" validities. Within each sample, a second analysis then provided the correlation of each item with the valid key score. Items having relatively high correlation with the valid key but low relationship to the criterion were chosen for the suppressor key in each sample. Scores on both suppressor keys and both valid keys were correlated with each other and with the criterion in each sample to determine optimum combining weights.

RESULTS: The cross validity of each of the "valid keys" was .22. The equally weighted combination of these gave a coefficient of .26. One suppressor key was found to be moderately effective. It correlated .66 with its associated valid key and .00 with the criterion. The cross validity of the associated valid key was raised to .28 when combined with this suppressor. The cross validity of the combined valid keys and the suppressor was found to be .32. The standard deviations and intercorrelations of the valid plus suppressor composites were lower than those of the valid keys alone.

CONCLUSIONS: This experiment demonstrates the merits of a relatively simple technique of identifying suppressors within personality tests. The improvement in validity from .26 to .32, while modest, is promising in view of the reduction in intercorrelation between the valid keys.

Kling, Arthur *see* Brady, Joseph V.

Knopf, Irwin J., Murfett, Betty J., & Milstein, Victor. (*The Psychopathic Hospital, State University of Iowa*) **A comparative study of the Wechsler-Bellevue Form I and the WISC.**

PROBLEM: While the Wechsler-Bellevue and the WISC have been standardized and recommended for use with overlapping age groups (10 to 16 years), little is known of the comparative test performance within this age range. The present study, therefore, was designed to compare IQ's and to determine inter- and intratest relationships with a selected group of adolescent boys.

SUBJECTS: 30 Iowa City Junior High School boys ranging in age from 13–4 years to 14–6 years, and ranging in IQ (as independently measured by the Otis) from 79 to 116.

PROCEDURE: The Wechsler-Bellevue and the WISC were administered to all *S*s at one sitting with the order of the tests counterbalanced so that half of the *S*s received the Wechsler-Bellevue first followed by the WISC, and half the *S*s received the WISC first followed by the Wechsler-Bellevue.

RESULTS: The full scale and verbal IQ's on the WISC were significantly higher than those obtained on the Wechsler-Bellevue at a degree of confidence beyond the 1% level. Product-moment correlations were computed for each pair of subtests to give a degree of relationship from test to test for a given subtest, and also for both scales for each *S* to give such a measure for the test performance of each *S*. In general, the correlations obtained point to poor predictability from one subtest to the other and from one test to the other. Finally, significant interaction between the tests and the order of presentation was found. Implications of these findings will be discussed. (Slides)

Knowles, W. B. *see* Garvey, W. D.

Knowles, W. B., Garvey, W. D., & Newlin, E. P. (*Naval Research Laboratory*) **Spatial-verbal coding in perceptual-motor skills.** (Sponsor, W. B. Knowles)

PROBLEM: The present study is an attempt to describe the coding methods used by *S*s in the operation of a number of display-control systems, and to show how a simple "spatial" technique may be converted into a complex "verbal" one by different arrangements of the same displays and controls.

PROCEDURE: Two displays and two controls were paired and arranged in different ways to give six systems, each containing 100 S-R alternatives, but postulated to require either analytical, partially analytical, or nonanalytical coding techniques. Six navy enlisted men were given one trial of 100 stimuli on each system in counterbalanced orders for 24 days. On Days 16 and 17 a simultaneous secondary verbal task was introduced. Response times to each primary task stimulus were measured.

RESULTS: The response times were analyzed by constructing three-dimensional graphic models showing response time as a function of stimulus position. For the nonanalytical systems the models were uniformly low and flat. For the partially analytical systems the models were complex and showed clearly that the shortest responses were associated with positions near readily available spatial anchoring points. The models for the analytical systems were uniformly high and flat.

Within each partially analytical system the S–R elements were categorized into spatial and verbal elements. With the introduction of the secondary task, the response-time increase for the distracted verbal elements was twice as great as for the distracted spatial elements. The distraction effect was also twice as great for the analytical systems as for the nonanalytical systems. These results were taken to confirm the a priori classification and also to demonstrate that the kind of coding used is a function of the S–R configurations permitted the operator by the established display-control relationships. (Slides)

Korchin, Sheldon J. *see* Basowitz, Harold

Korchin, Sheldon J., & Basowitz, Harold. (*Institute for Psychosomatic and Psychiatric Research and Training, Michael Reese Hospital*) **Response to a life stress: perceptual discrimination.**

Psychological stress and anxiety are known to change perceptual functioning under both experimental and clinical conditions. The present experiment, part of a research program on anxiety, studied a simple perceptual function as it varied during a prolonged period of life stress—paratrooper training—and as it is related to a biochemical index of anxiety.

Since earlier research has shown that patients with free anxiety had characteristically high values in hippuric acid excretion (HA), the 10 "highs" and 10 "lows" from a group of 100 randomly selected trainees tested on this measure were studied as they went through the stresses of the three-week training period. Eight soldiers not in training and not jumping were used as controls.

The *S*s were tested on seventeen occasions before, during, and after training, prior to tower and plane jumps on training days. Controls were tested 11 times. The test task required the discrimination of openings in circles presented tachistoscopically. Forty-five test stimuli were presented each day, 15 each at .01, .02, and .04 seconds.

Experimental *S*s, both the high HA and low HA groups, did consistently less well than the control group. On each of the paired occasions the mean number of correctly perceived stimuli is lower for the men under stress. That this difference is a function of stress is also seen in a further finding. When tested *after* the day's jumps, experimental *S*s show a rise in accuracy. Moreover, the high HA group perform less well than the low group on every day until the beginning of the third week, when the two groups converge. Strikingly, there is a distinct drop in accuracy of discrimination, greater in the high HA group, after training is completed. This is interpreted as resulting from an increase in anxiety following a relaxation of the controls required during training. Other aspects of perceptual response to various phases of training are discussed.

It is thus concluded that stress in a life situation alters perceptual efficiency and that proneness to such response is reflected in the prestress hippuric acid excretion level. (Slides)

Korngold, Murray. (*University of California, Los Angeles*) **An investigation of some psychological effects of electric shock treatment.**

This is an abstract of a thesis submitted in partial satisfaction of the requirements for the degree of PhD in psychology at UCLA, April, 1953.

The question posed by this study is: Is there a rigid sensitization to certain classes of stimuli which is changed by electric shock treatment? Eighty persons, 40 psychiatric patients undergoing electric shock treatment and 40 undergraduate college students, served as the *S*s of an experimental investigation directed toward the confirmation of the following hypotheses: (*a*) that a state of sensitization to a particular class of stimulus words can be experimentally induced, and (*b*) that this pre-existing sensitization to a special class of stimulus words can be significantly changed by a single electric shock treatment.

The sensitization was induced in normal and psychiatric *S*s by way of interrupting them in the per-

formance of four tasks as compared with the control *Ss* who were allowed to complete the tasks. All *Ss* were then given an administration of a word association list containing 16 neutral words and 4 task related words. A statistically reliable difference in response times was noted between interrupted and completed groups, thus confirming the first hypothesis.

The psychiatric experimental *Ss* were given an electric shock treatment after the first administration of the word list, whereas the psychiatric controls were not, and both were readministered the word list a second time, after comparable intervals. The second hypothesis was confirmed at a high level of confidence, but the direction of change was directly contrary to what had been expected on theoretical grounds.

It was concluded that these results actually confirm clinical impressions of shock-induced psychological changes, albeit expressed in terms of sensitization. The findings tended to suggest that, as a result of shock: (*a*) a selective and highly sensitized forgetting takes place which conditions the mood of the patient by withdrawing the most highly charged memories and associations, and (*b*) the capacity for appropriate discrimination between external stimuli of differing valences tends to be heightened. These correspond to clinical observations of "flattening" of mood and heightening of reality contact.

Kostlan, Albert. (*VA Hospital, San Francisco*) **A method for the empirical study of psychodiagnosis.**

The experiment demonstrated the application of the "fractional-omission" methodology to a problem of psychodiagnosis: Which three or four sources of information, used in combination, permit clinicians to make the most valid inferences?

A social history, an MMPI, a Stein Sentence-Completion Test, and a Rorschach examination were gathered from each of five VA mental hygiene clinic outpatients. These were presented to eight expert judges who made true-false judgments on an empirically derived list of psychological inferences. Items upon which at least six judges agreed were considered to be "internally" validated. Other items, taken from the patients' therapy progress notes, were considered to be "externally" validated. The two sets of items were combined for presentation to the "subject," but were later analyzed separately.

The "subjects" were twenty clinical psychologists, each of whom was randomly deprived of a different source of information for each of four patients, and given only "minimal data" for a fifth patient (i.e., age, occupation, education, marital status, and source of referral to the clinic). The *Ss* answered the items on the basis of the information available to them. The experimental conditions were: (*a*) Rorschach missing, (*b*) MMPI missing, (*c*) Sentence-Completion Test missing, (*d*) social history missing, and (*e*) "minimal data" only. Errors were compared between experimental conditions by latin-square analysis of variance of the pooled data and by *t* tests.

Results were highly similar for both sets of items: (*a*) "Minimal data" permitted inferences which were better than chance. (*b*) Without social histories, inferences were no more accurate than on basis of "minimal data." (*c*) The superior combinations of tests were those which contained the social history together with the MMPI.

Krathwohl, David R. (*University of Illinois*) **Prediction of objective test behavior by means of the group Rorschach.**

PROBLEM: To determine the nature and extent of the relationship between behavior on a battery of achievement tests and various determinants of the group Rorschach.

POPULATION: 198 students in the University of Chicago College, grades 11 through 14.

PROCEDURE: The criterion variables were a battery of 32 achievement tests which covered the scope of the major objectives of a liberal education as conceived by the College of the University of Chicago. Each test score represented a relatively homogeneous behavior (Kuder-Richardson reliabilities .51–.91). The predictor variables were the various scores derived from the group Rorschach by the Munroe Check List. The nature of the relationships between the variables was analyzed by drawing a regression line through the column means (criterion) of the bivariate distributions. The strength of the relationships was determined by computing correlation ratios corrected for broad grouping and for bias.

CONCLUSIONS: Considering the evidence in this and previous studies, the following conclusions seem to be reasonably well established: (*a*) A relation between certain individual Rorschach scores or characteristics and academic achievement does exist. (*b*) This relationship is of such a low order that it is unlikely to add significantly to the accuracy of a regression equation. (*c*) Certain Rorschach characteristics are more certainly related to achievement than others. Among these are *W%*; *F%*, *Sh Sh*; *C Sh*; *M*; *FC*; *P*; *FK,Fc*; and possibly Total Color. (*d*) Differential prediction of achievement with respect to given Rorschach characteristics does find relationships which would be missed if only general relationships over a battery or a grade average were the sole criterion.

An additional conclusion less well supported by the data is that adjustment in the color area may be a

relatively more important determiner of academic achievement than adjustment in other areas. (Slides)

Lacey, John I., & Smith, Robert L. (*Fels Research Institute, Yellow Springs, Ohio*) **Semantic generalization of a conditioned autonomic response formed without awareness.** (Sponsor, John I. Lacey)

PROBLEM: Experimental studies of "complex guiding processes . . . formed, retained, and used without the person's being aware . . . " (Leeper) are relatively few and mostly limited to studies of concept formation. In a 1936 paper, Diven purported to show that a conditioned autonomic response could be formed without awareness, and that mediated generalization of this response occurred. His design and treatment of results, however, were inadequate. The present study is an extension and refinement of his experiment.

SUBJECTS: 30 male college freshmen, with extreme scores on the Taylor Manifest Anxiety Scale.

PROCEDURE: *S*s chain-associated to each of a list of words, half with rural meaning, half with nonrural meaning. Group I *S*s were shocked at the end of association to a repeated rural word; Group II at the end of association to a repeated nonrural word; Group III equally often on a rural as on a nonrural word. Interviews before the subsequent extinction session established the "unawareness" of the 30 *S*s for whom results are presented. Palmar conductance, heart rate, and blood flow were continually recorded.

RESULTS: (*a*) Groups I and II both acquired differential autonomic response to rural and nonrural words, in the predicted directions. Group III showed no significant trends. Acquisition-extinction curves were statistically significant for Groups I and II. (*b*) High-anxiety *S*s were not different from low-anxiety *S*s.

CONCLUSIONS: (*a*) *S*s acquire conditioned autonomic responses to a word that has been associated with shock, *although they cannot verbalize the association.* (*b*) This conditioned anxiety response generalizes to other words within a concept already formed (rural words) or within one formed during the experiment (nonrural words). (*c*) Such conditioning is not related to the Taylor Manifest Anxiety Scale. (Slides)

Laffal, Julius (*Yale University*), **Levine, Jacob** (*VA Hospital, Newington, Conn.*), **& Redlich, Frederick C.** (*Yale University*) **An anxiety-reduction theory of humor.**

In the Freudian writings on wit there exists a potentially quantifiable theory of the nature of the response to humorous stimulation. Freud explained the humor response as due either to a saving in energy effected by a momentary regression to infantile modes of thought, or to a saving in the energy required to maintain defenses against forbidden impulses.

Focusing upon the concept of anxiety-reduction rather than saving in energy required to maintain defenses, essentially two sides of the same coin, a theory is developed which accounts for the response to humorous stimuli in terms of the arousal and sudden reduction of anxiety associated both with specific humor content and with the task of understanding or solving the joke. Three basic postulates are laid down: (*a*) The greater the anxiety reduction, the greater the mirth response. (*b*) If the anxiety produced by a humorous stimulus is too great, there will be no mirth response, but on the contrary, an unreduced anxiety response. (*c*) If the anxiety evoked by a humorous stimulus is relatively low, the mirth response will be minimal.

The two basic independent variables in the humor process are (*a*) the initial anxiety level of the *S*, and (*b*) the amount of theme and task anxiety aroused by the humor stimulus. The dependent variable is the humor response. Arbitrarily assigning numerical values to low, moderate, and high initial subject anxiety, and to low, moderate, and high theme and task anxiety aroused by the humorous stimuli, prediction curves of the relative intensity of the anxiety reduction response to the stimuli are worked out, ranging from extreme mirth to extreme anxiety. The theory is capable of leading to systematic, experimental study of the nature of the humor process.

Lakritz, Joseph B. *see* Fensterheim, Herbert

Lanmon, Monroe *see* McGuire, Carson

Lanzetta, John T. (*University of Rochester*) **Group behavior under stress.**

PROBLEM: To investigate the effects of three degrees of situational stress on the behavior of small groups. Secondarily, we were interested in exploring the interaction of stress with motivation.

PROCEDURE: Three stress and two motivating conditions were used. For the nonstress condition (NS) groups were simply told we were interested in small group performance on certain tasks. The mild stress (MS) consisted of time limitations and mild-failure experiences, while high stress (HS) was mainly induced by badgering, space restrictions, and time limitations.

Forty-eight volunteers from the NROTC program were randomly divided into 12 groups of 4 members each; 6 of these were randomly assigned to the high motivating condition, the others became the low motivation class. The six groups within a motivation class received the three stress situations in a different order, the six possible orderings being used.

The groups worked on two types of task in a laboratory setting. Observers immediately classified their on-going behavior in terms of a large number of categories, and after each task rated each *S* on a number of traits. After the experimental session both the observers and the *S*s rated the group on a series of group characteristics.

RESULTS AND CONCLUSIONS: 1. Under increased stress there was a decrease in behaviors which would tend to cause tension, friction, or disequilibrium in the group and an increase in behaviors which would tend to cause a decrease in tension, and increased integration of the group.

2. Observers rated productivity, efficiency, and morale as being highest under MS and lowest under HS.

3. Motivation was significant for only a few variables and did not interact with stress to a significant extent.

4. The results for task supported previous findings and again point up the marked differences in behavior of groups depending on the activity in which they are engaged.

Lauer, Donald W., & Estes, William K. (*Indiana University*) **Rate of learning during successive discrimination reversals in relation to trial spacing.**

PROBLEM: Rate of learning during successive discrimination reversals is studied in relation to the method of trial spacing.

PROCEDURE: Three groups of 12 male hooded rats each were run in a T unit through five series of left-right discrimination trials. A correction method was used, with food reinforcement. Before each reversal a rather strict group criterion was met. During the first four series, Groups I, II, and III received one, two, and four daily trials, respectively. Trials within daily blocks were separated by 5-sec. intervals. During the fifth series all groups received one trial daily.

RESULTS: Learning rate remained virtually constant for Group I during all five series but increased significantly over the first four series for Groups II and III. The accelerated learning reflected a significant reduction of errors on second trials of daily blocks with no significant reduction of first-trial errors. In the fifth series differences between the groups were small and insignificant.

Correction time, i.e., time required on an incorrect trial for the animal to go from the locked end-box door to the unlocked door, decreased significantly from series to series; thus the average time between choice-point responses within daily blocks decreased substantially for Groups II and III during the experiment.

CONCLUSIONS: The assumption of statistical learning models that rate of learning should be constant from series to series if trials are independent seems tenable. It is suggested that the change in learning rate for massed-trial groups depends upon an increase in overlap of stimulus samples from trial to trial within daily blocks which accompanies the decrease in mean correction time from series to series. (Slides)

Laux, Elizabeth Kent *see* Walsh, M. Kershaw

Layton, Wilbur L. (*Student Counseling Bureau, University of Minnesota*) **The construction and validity of a test to predict success in engineering training.**

PROBLEM: To construct and standardize a test to predict grades in engineering courses.

SUBJECTS: Freshman men entering the University of Minnesota Institute of Technology in the fall of 1950 and 1951.

PROCEDURE: A test was constructed which contained two types of material. One section was concerned with reading comprehension of mathematics. The other dealt with a picture of a large cube subdivided into 64 cubes. Ninety-seven completion-type test items covering these sections were constructed. This preliminary test was administered to engineering freshmen in the fall of 1950. The items were analyzed against the criterion of first quarter grades. Written-in item-alternative distractors, as well as the keyed alternatives, were analyzed. The 40 "best" items were combined as four-alternative multiple-choice items into the present form of the test.

This test was administered with a 90-minute time limit to 301 engineering freshmen in the fall of 1951. The Cooperative Elementary Algebra Test was also administered. ACE Psychological Examination and Cooperative English Test scores and high school percentile ranks were also available. The total group was divided on the basis of curriculum taken the freshman year. For the largest such group ($N = 128$) the intercorrelations of the independent variables and a criterion, first-year grades, were computed. A coefficient of multiple correlation and a regression equation were also computed.

RESULTS: When combined with the other variables, the new test, the algebra test, and high school rank yielded statistically significant beta weights with a resulting coefficient of multiple correlation of .77. The new test correlated .64, the algebra test .72, and HSR .54 with first year grades.

CONCLUSIONS: On cross validation, the new test alone and in combination with other tests was significantly related to success in engineering training.

Leary, Robert W. (*University of Washington*) **A survey of puzzle manipulation.**

PROBLEM: To explore the puzzle-opening tendencies of several different primates and to determine how practice affects manipulatory drive.

SUBJECTS: Three young gorillas, two spectacled langurs, and seven rhesus macaques. Incidental observations were obtained on other species.

PROCEDURE: Experiment I. Three young gorillas were given nine daily 10-min. sessions with a 6-step mechanical puzzle which was fastened to a table in a large outdoor cage.

Experiment II. Using the same puzzle, two langurs were given nine daily 10-min. sessions with the puzzle on the cage floor.

Experiment III. Two young naive rhesus monkeys were exposed to a similar puzzle both in their home cages and in a test cage on eight occasions.

Experiment IV. A group of three young rhesus monkeys was given a 3-step mechanical puzzle under various conditions for a period of about 80 days. An older laboratory-experienced group of three monkeys was also tested.

Experiment V. This same group of three young monkeys was tested on the 3-step puzzle under three distributions of practice. Test intervals of 2½, 5, and 10 min. were used.

Experiment VI. This group was tested on a new puzzle after partial satiation of the manipulatory drive on the 3-step puzzle.

RESULTS: The results are interpreted in terms of situational drive. Gorillas appear to be superior to monkeys in puzzle manipulation. The naive monkeys did not start opening the puzzles until they had been tested for about 80 days, and then acquired the manipulative skill abruptly. Since laboratory-experienced monkeys manipulate puzzles with little or no delay, a factor of security or familiarity may be involved. The more widely spaced the tests, the higher is the level of performance, but even the most concentrated practice condition did not extinguish response within a 3-hr. period. Performance decrement may occur for one puzzle with relatively little effect on interest in a second puzzle.

Ledwith, Nettie H. (*Pittsburgh Child Guidance Center*) **Rorschach responses of elementary school children: a normative study.**

Results of an extensive study of Rorschach protocols of elementary school children just completed at the Pittsburgh Child Guidance Center include normative data on a representative sample of children from the schools of Pittsburgh and Allegheny County. These children were initially contacted in the first grades of 30 different schools representing the range of socioeconomic levels in the city and county. A Revised Stanford-Binet examination and Rorschach test were administered to each of 160 children at this time. The annual repetition of the Rorschach test during the next five years has resulted in the accumulation of six Rorschach protocols for each of 138 children of the original sample. These data have been analyzed in terms of central tendencies and dispersions of the various Rorschach categories and determinants. Similarities and differences as to sex, age, and intelligence levels are discussed. A brief outline of administration, scoring, and interpretation of children's Rorschachs concludes the paper.

Lee, Francis J. *see* Horwitz, Murray

Lehman, Harvey C. (*Ohio University*) **The ages of past presidents of professional organizations.**

PROBLEM: This study attempts to ascertain the chronological ages at which individuals have attained sufficient professional prestige to be elected presidents of national learned, scientific, and technical societies.

PROCEDURE: The names of the more important national professional organizations were obtained from several different sources but mostly from the *World Almanac* and from the *National Cyclopedia of American Biography*. The names of the past presidents of these organizations and the years when they were first elected were gotten from one or more of the following sources: societal directories, the annual transactions published by the several organizations, special journal articles, and the secretaries of the several societies.

The birth and death dates of the deceased presidents and the birth dates of those still living were obtained chiefly from the several editions of Cattell's *American Men of Science*, from two editions of *Who Was Who in America*, from successive editions of *Who's Who in America*, and from various biographical dictionaries.

RESULTS: Mean ages at time of first election were obtained for almost all of the past presidents of 45 professional organizations. As usual women were found to conceal their dates of birth far more often than men. For the individuals studied the age range at time of first election varied from 29 to 86. For the 45 societies the mean ages varied from 46.05 (American Psychological Association) to 64.19 (American Bar Association). In a majority of instances the most recent 50% of each group of past presidents exhibited an older mean age than did the earliest 50%.

CONCLUSIONS: By correlating such variables as were available and by comparing those groups that have elected the oldest presidents with those that have elected the youngest ones a number of tentative generalizations have been derived.

Leibowitz, Herschel. (*University of Wisconsin*) **Some observations on the variation of visual acuity with the orientation of the test object.** Differences in visual acuity as a function of the orientation of the test object have previously been reported. The present paper presents additional evidence of this phenomenon to determine the effect of the variables of pupil diameter and luminance level on the magnitude of the effect with a grating test object, and to investigate the origins of these meridional differences.

The effect of pupil diameter on visual acuity was determined independent of variation in retinal illuminance at five retinal-illuminance values. Four orientations of the test object were employed, horizontal, vertical, and 45° clockwise and counterclockwise from vertical.

The data obtained on two *S*s with normal refraction show no differences between the horizontal and vertical positions or between the two oblique positions. However, the average of horizontal and vertical is superior to the average of the oblique positions without exception under all experimental conditions. This superiority increases with pupil diameter but is not affected systematically by the retinal-illuminance level.

The increase of meridional differences with pupil diameter, the same condition which increases the effectiveness of aberrations, points to the dioptric origin of meridional differences in acuity. The possibility that retinal or postretinal factors are also operative in producing the phenomenon is suggested by the persistence of the effect at high-luminance levels and with large pupil diameters, a condition where slight imperfections in the retinal image are shown not to lower visual acuity.

This account was prepared in part under project NR142-404, Contract N6onr-271, Task Order IX, between Columbia University and the Office of Naval Research. (Slides)

Leimert, Mary L. *see* Fromm, Erika

Lem, Charles *see* Smith, Patricia Cain

Lepkin, Milton (*Psychological Service of Pittsburgh*), **& Allport, Floyd H.** (*Syracuse University*) **An objective analysis of facial expressions associated with emotional situations.** PROBLEM: To investigate the extent to which the facial reactions of persons in situations said to be emotional can be identified with objective or meaningful descriptions of those situations, and to ascertain relationships of certain parts of the facial pattern to types of "emotional" situations.

PROCEDURES: Objectively stated descriptions of nine types of "emotional" situations were devised in terms of the appropriate meaningful behavior. Unposed photographs of 140 persons in real-life emotional situations were collected at random in accordance with certain criteria. Twenty-five judges classified the photographs according to which one of the situations they judged the individual to be in.

Eighty-seven pictures were considered representative of particular situations by a significant (5% level of confidence) proportion of judges. Enlargements of the faces alone of these persons were matched by 30 judges to the descriptions of the situational categories, in a 15×6:9 matching experiment. The facial pictures were then segmented horizontally, and 20 judges ranked them according to the degree of involvement of each of 17 facial aspects. For each aspect, a correlational study with matching was made, the mean ranking of the pictures in each situational category was calculated, and chi-square tests used to determine those aspects associated with a particular situation to a significantly (5%) greater extent than with the remaining situations as a whole. RESULTS: 79% of the faces were correctly matched with the situational description by a significant (5%) number of judges.

Six different emotions, pain, love, anger, surprise, fear, and joy, on the basis of one or more criteria, had from one to three facial features uniquely associated with them. The specific patterns become more extensive when the emotions are grouped into broader classes. These results contrast with conclusions of earlier studies. There do appear to be definite facial expressions for different emotions. (Slides)

Levi, Mario, & Super, Donald E. (*Human Factors Operations Research Laboratories, Detachment No. 3, Stead AFB*) **A study of personality requirements for survival by the use of a "biographical inventory."**

PROBLEM: To determine the personality requirements requisite for survival.

SUBJECTS: 300 airmen and officers undergoing training at an Air Force base.

PROCEDURE: The hypothesis was set up that survival requires personality characteristics such as (*a*) independence of environmental props, (*b*) facility in coping with unfamiliar situations, (*c*) security in small group relationships, (*d*) familiarity with the out-of-doors. To test this hypothesis a biographical inventory designed to tap experiences which might be related to the development of these characteristics in childhood and adolescence (constructed by Super) was administered to the 376 *S*s before the training. In this inventory the *S*s were asked questions such as age at first overnight visits away from home, frequency and ease of changing schools, cohesiveness of the family, fringe vs. core membership in peer

groups, and participation in outdoor sports. In addition, all *S*s, at the end of two weeks' training, were administered an attitude and sociometric questionnaire. In the attitude questionnaire the *S*s were asked to state their feelings of adequacy for survival on a five-point scale. In the sociometric questionnaire they were asked to state which crew members they would choose as survival leader and which crew members were near the breaking point. In addition, the instructors' field ratings of *S*s were secured.

The biographical inventory responses of the following groups were tabulated and compared: (*a*) *S*s who felt adequate vs. *S*s who felt inadequate; (*b*) *S*s who received high and low instructors' field ratings; (*c*) *S*s who received a high number of sociometric choices as leaders vs. *S*s who were chosen as "near the breaking point"; and (*d*) a combination of the three "high" vs. the three "low" groups.

RESULTS AND CONCLUSIONS: Comparison of the responses of the different groups appears to confirm most of the specific hypotheses on personality requirements for survival: items tend to be valid as expected. Regardless of the groups compared, it was not the principle of maximum but of optimum that appeared to be operating. An average age in which independence was acquired, a general ease of acceptance of change, security but not dependence in small group relationships, and familiarity with the outdoors especially appeared to be related to predictable success in survival.

Levin, Harry. (*Laboratory of Human Development, Harvard University*) **Effects of parental punishment on young children's overt and fantasy aggression.**

PROBLEM: This paper is part of a program to study the effects of child-training experiences on the motivational development of young children. The general hypothesis tested is that the expression of overt and fantasy aggression is a function of the strength of aggressive drive, the severity of inhibition (punishment), and the similarity of the situations in which aggression is measured to the original situations in which aggression was instigated and inhibited.

SUBJECTS: 202 five-year-old boys; 177 five-year-old girls; the mothers and kindergarten teachers of these children.

PROCEDURE: Mothers of the kindergarten children were interviewed about many aspects of their child-rearing practices. From the interviews, the severity of punishment for aggression at home was judged. Teachers rated the children on the amount of quarreling and fighting they did in the classroom. Also, the children were scored for the number of aggressive responses they showed in two twenty-minute sessions of permissive doll play.

RESULTS: (*a*) Boys exhibit significantly more aggression than girls in the classroom and in the two doll-play sessions. (*b*) The least severely punished group of boys and girls exhibit significantly less overt aggression than the more severely punished children. (*c*) Highly punished girls show significantly more aggression in both doll-play sessions than do less severely punished girls; a greater proportion of low punishment than high punishment girls show no fantasy aggression at all. (*d*) Highly punished boys tend to be less aggressive in both doll play sessions than are less punished boys; the difference is statistically significant for only the first doll-play session. (*e*) For both boys and girls, the session-to-session increase in aggression is greater for the more highly punished children. These results will be discussed in reference to previously published reports on the relationships between punishment and children's aggressive behavior. (Slides)

Levine, Abraham S., & Gross, Frank A. (*Research Division, Bureau of Naval Personnel, Department of the Navy*) **Current validities of the Navy Basic Test Battery.** (Sponsor, Abraham S. Levine)

PROBLEM: The Navy Basic Test Battery is used primarily for classification of enlisted men for Navy training schools. Although such variables as education, experience, and expressed interests are taken into consideration by the classification interviewer in determining actual assignment, the test battery is the mainstay of the entire enlisted classification program. Since the curricula at some technical schools undergo modification and new schools are activated to meet the changing needs of the Navy, it is important that periodic checks be made of the validities of this test battery to serve as a basis for recommending entrance requirements.

SUBJECTS AND PROCEDURES: The four tests in the Navy Basic Test Battery are administered routinely to all recruits at Naval training centers. Final grades at technical training schools serve as the criteria against which the scores on these tests are validated. In the current study, validity data were obtained for 58 schools with *N*'s ranging from 63 to 1,035.

RESULTS AND CONCLUSIONS: The best single test validities typically range from .40 to .65, and the best combination of two tests adds about .05. Cutting scores or selection standards for these schools generally consist of the summed standard scores on two of these tests. In the present study, the median validity for these scores is .55.

This investigation made possible a revision of cutting scores with a more equitable share of the classification load on all four of the tests. As a consequence, the average intercorrelation of these cutting

scores was reduced, thereby enhancing the net contribution to the classification efficiency of the battery.

Levine, Harold A. (*Bellevue Medical Center*) **Preferences of neurotic and nonmaladjusted individuals for success and failure.**

Preferences of nonmaladjusted and psychiatrically diagnosed conversion reaction, and anxiety reaction groups ($N = 25$ in each group) were investigated for successes of varying difficulty, and for successes compared with two levels of failure. The groups were World War II white male veterans and were equated for age, IQ, and educational and vocational levels. Nonmaladjusted *S*s were differentiated from the maladjusted by the Cornell Index. The experimental situation consisted of tasks taken from the Grace Arthur Stencil designs. Difficulty was defined by time taken to complete a task, and success and failure by experimentally controlled completion and interruption.

Each *S* was presented with three situations. The first offered tasks varying in difficulty which were all completed (successes). The second involved completed tasks (successes), tasks interrupted one step before completion (partial failures), and tasks interrupted after half the elements were correctly superimposed (failures). After each situation, rank order of preferences was obtained. The third situation required *S* to select two tasks of the experienced mixed successes and failures for repetition. Reasons for all preferences and repetition choices were obtained.

No quantitative differences were found among the preferences of the groups for successes of varying difficulty. The groups differed when their preferences and repetitions were for nonsuccesses. The conversions and nonmaladjusted tended to prefer partial failures over failures and to repeat partial failures as first choice. The anxieties tended to prefer failures over partial failures and repeated failures as their first choice. Both neurotically maladjusted groups appeared to react in opposition at times, with the behavior of the nonmaladjusted intermediate.

Hypotheses that "neurotics" more often than nonmaladjusteds will prefer easier tasks, prefer successes to failures, or tend to redo successes rather than failures are not substantiated. The data suggest that "neurotics" should not be treated as a homogeneous group.

Levine, Jacob *see* Laffal, Julius

Levine, Judith, & Davidson, Helen H. (*College of the City of New York*) **Are abbreviated Rorschach records useful?** (Sponsor, Helen H. Davidson)

PROBLEM: To determine the feasibility of using part of a long Rorschach protocol when the part selected is distributed among all 10 cards.

SUBJECTS: 21 boys and girls, 9–14 years old, of superior intelligence.

PROCEDURE: Rorschach records containing 40 to 93 responses were divided into four units: the first (I) consisted of the first response to each card (10 first responses); the second (II), the first two responses to each card (20 first responses); the third (III) consisted of the first 50% of the responses to each card (first half); the fourth (IV) consisted of the second 50% of the responses to each card (the second half).

Correlation coefficients for the major scoring variables were calculated between Unit I and the rest of the record, Unit II and the rest of the record, and between Units III and IV.

For Units III and IV, means, standard deviations, and the number of subjects scoring consistently on each variable were compared.

Personality interpretations based on each unit for two cases were compared.

RESULTS: (*a*) Of the 42 correlation coefficients, 8 are significant at the .01 level; 15 at the .05. Location, *M*, *F*, and *m* scores correlated highest. Units III with IV yield higher correlations than Units I and II with the remainder of the record. (*b*) The means and standard deviations for Units III and IV are practically identical; the percentage of individuals scoring consistently in the two parts is from 52% to 90%. (*c*) Color and animal movement responses appear more frequently in the first half; shading scores appear more frequently in the second half. (*d*) Interpretative summaries are similar.

CONCLUSIONS: The first half of a long record may be used with [illegible] *Research Laborat*[illegible]imitation that the proportion [illegible]*Stead AFB*) A study be misleading if only the first [illegible]ents for surv[illegible]ical [illegible]

Levine, Seymour. (*Boston University*) **The role of motivation in the effects of "active review" on learning from a factual film.**

PROBLEM: Previous research indicates that learning from films is increased when the viewer participates in "active review" (audience participation). This increased learning could be the result of (*a*) specific effects of practice during the review periods and/or (*b*) increased motivation resulting from the review procedure. Under conditions of generally high motivation a recent experiment designed to test the above hypotheses found evidence of increased learning only for the direct effects of practice. The present study stems from the assumption that a high level of motivation could mask any motivational effects that might otherwise improve the learning of material not directly rehearsed during the active review sessions. It was designed to investigate hypothesis (*a*) above under different over-all levels of motivation.

SUBJECTS: Four groups of approximately eight classes each of basic Air Force trainees (939) viewed a film on world maps.

PROCEDURE: Half the classes were shown the film with active review; for the other half the review was absent. Within these groups half the classes were run under the condition of high motivation, the other half under low motivation. These review sessions were interspersed during the film showing. Ten of 35 test questions were practiced during the review sessions. Over-all motivation was manipulated by instructions given prior to the film showing. The review session consisted of having the class write the answers to questions on the previous section of the film with the correct responses provided the *S*s after this practice.

RESULTS: (*a*) Significant gains occurred on nonpracticed items in the active review groups under low motivation conditions. (*b*) As in previous experiments conducted under generally high motivation, considerably larger gains occurred on practiced items than on nonpracticed items. In this experiment this also occurred under generally low motivation.

CONCLUSIONS: It is concluded that under conditions of low motivation active review procedures can result in gains due in part to motivation.

This research was conducted under contract with the Human Factors Operations Research Laboratories, United States Air Force. (Slides)

Levitt, Eugene E., & Clark, Carl A. (*Child Welfare Research Station, State University of Iowa*) **Knowledge of mental hygiene and "probability thinking" in high school students.**

A test of general knowledge of mental hygiene, a measure of "probability thinking" developed by the junior author, and an IQ test were administered to a group of high school juniors and seniors. By probability thinking is meant the awareness of the scientific nature of knowledge as opposed to the tendency to regard generalizations as absolute. This may be considered to be along the dimension of tolerance-intolerance of ambiguity.

It was found that the mental hygiene test scores and the probability thinking scores correlated .57. When IQ was partialled out, the relationship became .60, significant below the .01 level. Six items of the mental hygiene test concerned analysis of human behavior. These items correlated .57 with the whole test, and .41 with the probability thinking test.

It was also found that the probability test, with IQ held constant, correlates — .32 with the California E Scale. This correlation is significant below the .01 level.

The results are interpreted as follows: (*a*) adolescents who can think in terms of probability rather than in terms of absolutes (hence who are more tolerant of ambiguity) are less prone to accept many of the extant misconceptions in the area of mental hygiene. This is in accord with the hypothesis presented elsewhere by the senior author (*Amer. J. Psychol.*, 1952, 65, 443–449). (*b*) Probability thinking is related to the ability to analyze human behavior correctly.

Levy, Bernard I. *see* Rosenberg, Seymour

Lewin, Miriam *see* Matter, Jean

Lieberman, Seymour. (*Survey Research Center, University of Michigan*) **An analysis of some determinants of non-scale types.**

PROBLEM: "Non-scale" response patterns to a scale of questions can be interpreted in two ways: (*a*) as a function of multidimensionality, or (*b*) as a function of unreliability or the traditional "error" component. Scaling theorists have tended, recently, to interpret non-scale patterns in terms of the multidimensionality component. In the present paper, non-scale patterns are analyzed within the over-all context of scaling theory but from the viewpoint that they might be a function of the error component.

HYPOTHESES: The frequency of non-scale patterns will be a function of (*a*) the extent to which the stimuli composing a scale are relevant to the population to which they are exposed, and (*b*) the extent to which the stimuli are understood by the population to which they are exposed.

SUBJECTS: 2,499 blue-collar workers in a factory situation. They were paid according to two different systems: some on an incentive basis (i.e., according to the number of pieces they turned out) and some by straight hourly rates.

PROCEDURE: A paper-and-pencil questionnaire was administered to the *S*s. It included a series of questions about the incentive system of payment. From these questions, two scales dealing with the incentive system were developed. It was predicted that non-scale patterns would occur more frequently among nonincentive workers ("less relevant") than among incentive workers ("more relevant"), and more frequently among workers coded as having low comprehension of the questionnaire than among workers coded as having high comprehension.

RESULTS: The relevance and comprehension hypotheses were both supported. In all instances, significant differences in the relative frequency of non-scale patterns were found. The findings are discussed in terms of their implications for interpreting non-scale patterns, for evaluating coefficients of reproducibility, and for generalizing scale findings from one population to other populations.

Lindelien, Wallace B. *see* Willmorth, Norman E.

Lindsley, Ogden R. (*Harvard University*), **& Jetter, Walter W.** (*Boston University School of Medicine*) **The temporary elimination of discrimination and fear by sodium pentobarbital injections (dog).** (Sponsor, Ogden R. Lindsley)

PROBLEM: Sodium pentobarbital is often used to increase the rate of verbal behavior of the human patient (reduce anxiety). This could be interpreted as a result of an increase in the rate of all behavior (a general motivational increase), an increase in the rate of all suppressed behavior, or a specific increase in fear-suppressed behavior alone. Which statement best describes the action of nembutal on animal behavior?

SUBJECTS: 18 male 1 to 3-yr.-old beagle dogs stabilized at 90% kennel weight.

PROCEDURE: Dogs were trained to press a panel for food reinforcement and to produce a stable, daily, hour-long, operant behavior sample containing: (*a*) three 15-min. periods of responding on a 1-min., variable-interval schedule which separated (*b*) a 10-min. period of nonreinforcement, during which a flashing light was *S*-delta, from (*c*) a 5-min. period of conditioned rate suppression, using a buzzer for the conditioned suppressing stimulus, followed by 5 sec. of a 104-db horn as the suppressing stimulus. One hour before entering the Skinner box all dogs were intravenously injected with 1.0 cc. normal saline on the control day and 8 mg/kg sodium pentobarbital (nembutal) on the following day.

RESULTS: (*a*) Nembutal increased the average rate of response on a 1-min. variable-interval schedule (an increase in the general motivational level). (*b*) Nembutal eliminated the differential rate of response in *S*-delta (a reduction of visual discrimination). (*c*) Nembutal markedly reduced the conditioned rate suppression (a reduction of auditory-conditioned fear). All measures returned to normal the following day.

CONCLUSIONS: Sodium pentobarbital does not act specifically on conditioned fear. It temporarily reduces all discriminations involving rate suppression and slightly increases the general motivational level of the animal.

This research was supported by the Atomic Energy Commission, Project No. AT (30-1) 1201. (Slides)

Lodge, George T., & Guyer, Earl G. (*VA Hospital, Lebanon, Pennsylvania*) **Scientists and sanity.**

This inquiry was undertaken to explore the Korzybskian view that " . . . we should have to study the mentations of . . . [people] when they use their 'mind' at its best; namely when they mathematize, scientize, etc., and we should also have to study the mentations of those whom we call 'insane,' when they use their 'mind' at its worst." By aid of the Haskell coaction compass, Rorschach vectors of a group of Anne Roe's eminent physical scientists were computed and compared with those of two clear-cut groups of textbook neurotic and psychotic subjects. It was hypothesized that the physical scientists as a group would approximate the theoretic coaction normal in contrast with those who were mentally ill. The results, plotted according to the coaction compass, show the physical scientists to be unequivocally differentiated from the pathological groups by the determinant patterns of their Rorschach responses. Physical scientists demonstrate a much higher level of personal integration, along with correspondingly greater strength in the processes of *both* inhibition and facilitation. These findings are statistically significant far beyond the requirements for the 1% level of confidence. On each of the above counts (i.e., integration, inhibition, and facilitation) the neurotics occupy a position intermediate between the physical scientists and the psychotics. The neurotic group, however, is definitely more rigid than the other two groups. Contrary to a popular belief which holds that mentally healthy individuals are less inhibited than those who are neurotic, our observations indicate that it should prove fruitful to regard neuroticism as associated with "underfacilitation" rather than as a consequence of "overinhibition." (Slides)

Loevinger, Jane. (*Washington University School of Medicine*) **Some principles of personality measurement.**

The uncertainty principle states that for two conjugate characteristics, the product of their standard errors of measurement is a constant. Two similar principles limit the precision of measurement of personality traits. (*a*) The more structured the test, the greater will be the comparability of responses for the group, but the smaller will be the validity of the responses with respect to the traits of individuals. (*b*) For many interesting traits, the less disguised the question, the more disguised the answer. For tests of the direct type, the upper limit of homogeneity is high but the upper limit of validity is low. For disguised tests, the upper limit of homogeneity is low but the upper limit of validity is high.

The dilemma of structure is a logical one which does not appear to admit of a solution. The dilemma of disguise is an empirical one which may be surmounted by a change in the conditions of measurement, to wit, multiplication and diversification of items.

Rationalizations, which are themselves defenses or disguises, should be explored further as clues for more

essential traits. A type of item adapted to such use is forced choice between a pair of statements which are more or less contrary to each other. Use of rationalizations accords with the principle that measurement should cause as little stress as possible. Another principle which should be considered, within the limitations imposed by the preceding considerations, is Brunswik's principle concerning the sampling of situations.

Long, Eugene R. *see* Henneman, Richard H.

Lord, Frederic M. (*Educational Testing Service*) **The standard errors of various test statistics when the test items are sampled.**

Suppose that a large number of forms of the same test are administered to the same group of examinees, each form consisting of a random sample of items drawn from a common pool of items. If some test statistic is computed separately for each form of the test, the value obtained will (ignoring practice effect, fatigue, etc.) differ from form to form because of sampling fluctuations. The standard deviation of the values obtained represents, approximately, the standard error of the test statistic when the test items are sampled.

Formulas for such standard errors ("type 2" standard errors) are presented for (*a*) the test score of a single examinee, (*b*) the mean test score of a group of examinees, (*c*) the standard deviation of the scores of the group, (*d*) the Kuder-Richardson reliability of the test, (*e*) the parallel-forms reliability, (*f*) the test validity. In large "type 2" samples, the foregoing statistics (with the possible exception of *d*) are approximately normally distributed, so that significance tests can be made by familiar procedures.

Consideration is given to the relation of certain of the foregoing standard errors to the conventional standard error of measurement, and also to the Wilks-Votaw criterion for parallel tests. Practical applications of the results are discussed.

Lorge, Irving *see* Aikman, Louis, Fox, David, and Tuckman, Jacob

Lorge, Irving, Weltz, Paula, Fox, David, & Herrold, Kenneth. (*Teachers College, Columbia University*) **Decisions written by *ad hoc* staffs and simulated commanders.**

PROBLEM: Quality of decisions written by *ad hoc* groups simulating a military staff whose members had written individual decisions prior to the group meeting, compared with quality of decisions written by other individuals simulating commanders after reading the individual decisions of the group's members.

SUBJECTS: 66 Air Force officers enrolled at the Air University.

PROCEDURE: Each *S* wrote a decision involving a plan of action about a complex human-relations problem during a preliminary 50-minute period. In the second period, 55 of the original 66 *S*s were formed into *ad hoc* groups of 5 to write a staff decision for the same problem. The remaining 11 individuals, as individuals, wrote a final decision after reading the individual decisions written in the first period of the 5 officers in the corresponding second period "staff."

RESULTS: The decisions were appraised by the Quality Point Score (Lorge *et al.*). The data do not permit the rejection of the null hypothesis that the quality of decisions written by the *ad hoc* group is the same as that of decisions written by individuals simulating a commander. The resources of the individuals composing the simulated staff were supplied the simulated commanders in the form of the five individual decisions. The second-period staff decisions give evidence about the consequences of group interaction; the second-period decisions by the simulated commander give the resultant of his own solution of the problem in the first period and his use of the organization and the content of the five individual decisions. These two types of situations apparently are no different in terms of the quality of the final product. The second-period decisions written by *ad hoc* staffs and simulated commanders were significantly superior to the first-period decisions written as individuals.

Lorr, Maurice, Rubinstein, Eli A., & Reidy, Mary E. (*VA Central Office and VA Mental Hygiene Clinic, Washington, D. C.*) **A factor analysis of a scale for rating psychiatric outpatients.**

PROBLEM: To determine the personality parameters and syndromes underlying the traits and symptoms measured by a psychiatric outpatient rating schedule.

SUBJECTS: A representative sample of 184 veterans receiving psychotherapy in four mental hygiene clinics.

PROCEDURE: The schedule used, which was revised on basis of a pilot study, consisted of 73 rating scales constructed to measure manifest behavior, symptoms, and inferred motivation. It represents the outgrowth of a hospital form, the *Multidimensional Scale for Rating Psychiatric Patients*. The variables were chosen to measure some 15 hypothesized personality parameters and psychiatric syndromes currently used in describing psychiatric outpatients. After several training sessions, psychiatrists, psychologists, and social workers rated patients who, on the average, had been receiving individual psychotherapy for three months.

The correlations computed between scale variables were tetrachoric coefficients. On the basis of a cluster

analysis the complete 73×73 matrix was broken down to four submatrices and each was subjected to a centroid analysis. On the basis of the findings from this preliminary analysis a 50×50 variable matrix was assembled and analyzed by the multiple group procedure. The orthogonal factors extracted were then rotated to simple structure.

RESULTS: The 12 oblique factors identified included six syndromes and six personality parameters. The syndromes identified may be described as reality distortion, obsessive compulsive reaction, gastrointestinal reaction, cardio-respiratory reaction, sex conflict, and agitated depression. The bipolar personality factors were named conscientiousness, sense of self-belief, emotionality, maturity, goal-oriented need control, and tension-anxiety. The second order factors isolated will also be described.

Lubin, Ardie. (*Army Medical Service Graduate School*) **Nonlinear discriminating functions—an optimal solution to some problems of psychodiagnosis.**

PROBLEM: C. R. Rao proved that the number of misclassifications will be a minimum if each S is assigned to the category in which the likelihood of the S's pattern of test scores is a maximum, or roughly speaking, where the S's test pattern occurs most frequently. This theorem implies that for any given set of c diagnostic categories and q variables, the problem of psychodiagnosis is solved once one knows the distribution function of the q variables for each of the c categories. Given the c distribution functions one could assign the S to that category in which the likelihood of his set of test scores is highest.

RESULTS: If there is a multivariate normal distribution (i.e., every variable is distributed normally and every pair of variables has a linear regression) within each of the c categories, then the c likelihoods are quadratic functions.

Let x_i be the $q \times 1$ column vector of scores on the q variables for the ith individual; m_j be the $q \times q$ column vector of average scores on the q variables for the jth category; C_j be the $q \times q$ covariance matrix of the q variables for the jth category; n_j be the number of subjects in the jth group.

Taking twice the natural logarithm of the multivariate-normal distribution function and adding a constant of $2 \ln (2\pi)$, the following quadratic expression is obtained:

$$L_{ij} = 2 \ln n_j - \ln |C_j| - x_i' C_j^{-1} x_i + 2 x_i' C^{-1} m_j - m_j' C_j^{-1} m_j$$

C. A. B. Smith proved that when there are only two categories and the covariance matrices are homogeneous, the cross product and squared terms can be deleted and R. A. Fisher's linear discriminant function results. C. R. Rao showed that when the covariance matrices for all c categories are homogeneous, there will be c linear likelihood functions, which will furnish all the information needed for assignment.

When the c categories occupy only one dimension (i.e., the category means are on a straight line in the q-variable space) then only one linear discriminating function will be necessary. But whenever the categories involve at least two dimensions, all c discriminating functions must be used.

A worked example will be presented to illustrate the discrimination of psychotics, neurotics, and controls by means of four types of manual dexterity tests. It will give the necessary tests for (*a*) homogeneity of covariance matrices and (*b*) dimensionality of the category-test space.

Lucas, Charles M. (*Educational Testing Service*) **Analysis of the Navy's Relative Movement Test by means of a factorial approach.**

PROBLEM: The Relative Movement Test, which is a part of the Navy's Officer Classification Battery, has in the past been found to be a good predictor of success in certain of the Navy's specialized technical training schools. It has also been found not to correlate highly with other tests in the battery which also includes tests of mathematics, verbal reasoning, mechanical comprehension, block assembly, and block recognition. More adequate information was needed concerning what the Relative Movement Test measures in order to gain some indication of how more effective measures might be produced for use by the Navy in selection and classification of personnel.

PROCEDURE: A battery of 30 tests was assembled including the Relative Movement Test together with standard reference tests for the factors—deduction, induction, verbal, spatial, number, perceptual speed, and visualization. Also included in the battery were two plotting tests designed to complement the Relative Movement Test and several experimental tests of integration, judgment, and planning. These latter were included both to help clarify the nature of the Relative Movement Test and also to investigate the existence of factors in the integration, judgment, and planning area. All tests of the factor battery were administered to 666 officer candidates enrolled in a Naval school. The 30 tests were intercorrelated and then factored by Thurstone's grouping method.

RESULTS: The factor analysis of the battery resulted in the isolation of the expected reference factors and other factors. The Relative Movement Test was found to be loaded on a spatial-visualization factor, a deductive reasoning factor, and on several of the other factors.

This research was conducted under sponsorship of the Bureau of Naval Personnel and carried out under

contract between the Office of Naval Research and Educational Testing Service.

Lundin, William H. (*Chicago State Hospital*) **Projective movement sequences in the study of personality.**

A semistructured motion picture of eight ambiguous situations was constructed to obtain a more elaborated method for investigation phenomena akin to the Rorschach *M* response. The film provides structures upon which ongoing relationships are projected, and serves to undercut some defensive tendencies precipitated by static stimuli.

Three groups of 25 *S*s of both sexes were individually tested: "well-adjusted" controls, paranoid, and undetermined schizophrenics. Groups were chosen to control the effect of nosological variability, intelligence, organicity, and socioeconomic level.

A method of analysis attempting to exploit the unique nature of the film is described. Three areas are scored in detail: (*a*) movement direction (extensor, flexor, diverse), (*b*) source of energy for objects in motion (internal, external, static, disintegrative), and (*c*) content. Fluctuations in all scores are traced through each production, as are the purely structural changes within similar content categories.

Scoring categories can be applied consistently and reliably to handle all records. Paranoids and controls are quite similar with respect to movement direction, ideation, and energy sources. Undetermineds emphasize flexor movements. All groups are differentiated on the basis of concept changes with paranoids exhibiting the greatest amounts. A correlation of .95 obtains between a paranoid diagnosis and the presence of "anal" content. Content appears to be a differentiating indicator, paranoids stressing physiological and inanimate content, undetermineds animate and inanimate, and controls botanical, nature, and human. Pathological groups emphasize disintegrative movement, and the controls volitional and integrative motion.

The bizarre and dynamic quality of the film stimulates free associations of a seemingly basic nature, indicated by frequent themes such as, "being swallowed, wasting away laying eggs, intercourse and legs dropping off, eating each other up, dog on a man's back, baby birds burning." It is concluded that the motion picture, as a projective dimension, warrants further intensive exploration.

Lyons, Joseph. (*Department of Psychiatry, Cincinnati General Hospital*) **The perception of human action.**

PROBLEM: A relatively unexplored area in the field of perception concerns the commonest of all perceptual stimuli: the spontaneous, ongoing behavior of other persons. This study examines the relationship of social and personality adjustment to the perception of such behavior; specifically, to the perception of the parts of a perceived behavior continuum and the organization of these parts into meaningful wholes.

SUBJECTS: Ten pairs of observers, each pair consisting of a normal adult male matched with a schizophrenic for sex, age, education, and intelligence.

PROCEDURE: The two observers of each pair simultaneously observed the problem-solving behavior of a third person and reported it as it occurred and in retrospect. The stimulus behavior and the reported perception of it were divided into behavioral units according to an analytic scheme developed by Wright and Barker for the description of children's spontaneous behavior.

RESULTS: Both normals and schizophrenics described the behavior chiefly in terms of units that referred to meaningful, goal-directed activity of the whole person, although the normals emphasized more large and fewer small units; the schizophrenics reported a much greater proportion of meaningless, molecular behavior of a part of the person; both groups of observers reported more large and fewer small units in recall than in immediate perception of the same material, although the difference between immediate and recall was greater for the normals. The results are discussed in relation to social adjustment and the perception of social reality. (Slides)

Mabry, J. E. *see* Klare, G. R.

McAninch, William D. (*Ohio State University*) **Procedure for interpreting a complex factor in superiors' ratings of the combat performance of B-29 officer crew members.** (Sponsor, Andrew W. Halpin)

PROBLEM: To interpret the factors obtained in an analysis of superiors' ratings of officer crew members in respect to seven aspects of combat performance. Three factors were found: a "general" which reflects the rater's halo; a weak factor associated with ratings on Conformance to SOP and Performance under Stress; and a third factor with high loadings on Technical Proficiency and zero loadings on Over-All Effectiveness in Combat. This study reports the procedure whereby this latter factor was identified as an indirect measure of lack of motivation.

SUBJECTS: 443 B-29 officer crew members.

PROCEDURE: Correlations between scores on this factor and independent criteria of proficiency yielded paradoxical findings. The examination of the beta weights from which these factor scores were derived, and the analysis of the correlations between these scores and peer ratings led to the hypothesis that this factor pertained to motivation rather than to proficiency. This

hypothesis was then tested against verbatim records of comments made by the raters at the time of rating. RESULTS AND CONCLUSIONS: Men with high scores on this factor were characterized by such comments as "has sufficient skills, but doesn't want to use them," "he's a good man, but. . . ." High ratings on technical proficiency combined with low ratings on over-all effectiveness thus may be used as an indirect index of the ratee's lack of motivation. Considerable advantages in interpreting factor scores derived from superiors' ratings can be gained by recording, at the time of rating, the raters' comments as well as the ratings themselves.

This research was supported by the Human Factors Operations Research Laboratories, United States Air Force, under Contract No. AF 18 (600)-27. (Slides)

McCall, Raymond J. (*De Paul University*) **Psychometric evaluation of Rorschach records in brain-operated patients.**

POPULATION: 27 chronic psychotics from Columbia-Greystone I project, 15 psychosurgery cases (13 topectomy), and 12 matched controls. Twelve cases (8 operatees, 4 controls) still out of hospital four years after operation. Fifteen cases (7 operatees, 8 controls) still in hospital after four years.

Rorschach tests were administered to each patient approximately one month pre-operatively and four months postoperatively. Traditional scoring indicated no significant differences other than in initial reaction time between records of improved and unimproved cases pre- or postoperatively, or between operated and control cases pre- or postoperatively.

METHOD: (*a*) The same Rorschach records were also graded by psychometric rating scales (Zubin's method) to determine if there were differences between the groups, not evident from traditional scoring. (*b*) Analysis of variance and covariance was used to determine significance of mean differences on 35 scales between improved and unimproved, operated and control cases, pre- and postoperatively.

RESULTS: 1. Of 35 scales, 5 showed significant differences (.05 or better) pre-operatively between eventually improved and unimproved cases. Significant scales were Surface Color, Dehumanization, Ascendance-Submission, Plant Importance, Popularity. Improved cases also showed significantly longer RT to colored cards and to cards generally.

2. Differences between pre-operative records of operated and control cases were not significant.

3. Two scales (A-S and Plant Importance), which had differentiated improved and unimproved cases pre-operatively, differentiated these cases postoperatively (.001 and .01 levels respectively).

4. Three of five scales, which had differentiated improved cases pre-operatively (A-S, Dehumanization, Popularity), showed significant differences postoperatively between operated and control patients. The Human Importance Scale also differentiated ($p < .01$) postoperatively only.

5. Scales based on "formal" scoring categories did not differentiate improved from unimproved cases, nor operated from control cases pre- or postoperatively. CONCLUSION: In the Rorschach records of psychotic patients, content factors can provide more "sensitive" prognostic indicators than can "formal" signs.

McCleary, Robert A. (*USAF School of Aviation Medicine*) **The interaction of anxiety and ambient temperature in the production of palmar sweat.**

A self-administering chemical technique for the quantitative measurement of palmar sweat in large groups of *S*s has been developed. It is used to explore the relationship between thermal and emotional factors in palmar sweating. The chief aim of the work is the production of a simple and convenient method that could be used to obtain a reliable physiological index of anxiety in groups of *S*s under a variety of experimental circumstances.

PROCEDURE: 60 *S*s were divided into three groups of 20 each and assigned to one of three ambient temperature conditions: 40° F., 70° F., and 100° F. Each *S* was measured once at 70° F. for a baseline reading, once while resting and calm at the experimental temperature to which he had been assigned and finally at the same experimental temperature but under conditions of high anxiety induced by the threat of imminent physical harm.

RESULTS: Contrary to previous reports, the palmar sweat glands were found to be sensitive to thermal influences as well as "psychic" factors. Analysis of covariance yielded *F*'s for both temperature and anxiety effects that were significant well below the 1% level of confidence. The interaction between emotional sweating and ambient temperature was negligible. This is to say that over the range of temperatures studied, the amount of palmar sweating induced by the psychological trauma was approximately constant despite the level of palmar sweating produced by the ambient temperature under which the group was tested.

CONCLUSIONS: 1. The technique described is suitable for obtaining a physiological measure of anxiety simultaneously in large groups of *S*s over a wide range of ambient temperatures.

2. The constant magnitude of the psychophysiological response, despite varying ambient temperature, suggests that emotional and thermal sweating of the palm may be mediated through two fairly separate

systems of sweat glands. Emotional sweating may be adrenergic and thermal sweating, cholinergic. (Slides)

Maccoby, Eleanor E., & Gibbs, Patricia K. (*Laboratory of Human Development, Harvard University*) **Social class differences in child-rearing.**

PROBLEM: To determine the nature and extent of class differences in child-rearing practices.

SUBJECTS: 379 mothers of kindergarten children.

PROCEDURE: Standardized interviews were conducted with mothers, covering several major aspects of their child-rearing. Interviews were rated by pairs of raters who arrived at pooled judgments. Cases were scored on an index of socioeconomic status (based on income and the Warner scale of occupational status). The sample was divided into two main status groups which can best be designated as an upper-middle group and an upper-lower group, and the scores of these two groups on the child-rearing scales were compared.

RESULTS: The upper-middle mothers were significantly warmer in their affectional relationship with their children than were the upper-lower mothers ($p > .01$), and less often showed tendencies to reject the child ($p = .03$). The upper-middle mothers were less severe in sex-training, toilet-training, and in control of aggression toward parents (all these differences had p values of less than .01). The upper-middle mothers imposed fewer restrictions and demands on their children with respect to noise ($p = .03$), neatness and orderliness ($p < .01$), and care of household objects ($p = .03$), than did the upper-lower mothers, and less often punished their children ($p > .01$). There was no difference between the classes in severity of weaning, and there was a tendency (not significant) for upper-middle mothers to schedule the feeding of their infants more rigidly. Permitting or encouraging aggression toward neighbor children was equally common among mothers in the two classes.

CONCLUSIONS: In contrast with some previously published research, we find that the upper-middle class mothers are consistently more permissive, less punitive, and less demanding than upper-lower class mothers. This finding will be discussed in relation to education levels and the ethnic background of parents.

McConnell, James V., & Blake, Robert R. (*University of Texas*) **A methodological study of tape-recorded synthetic group atmospheres.** (Sponsor, Robert R. Blake)

PROBLEM: To compare reactions to a "real-life" group situation with those obtained for the same situation presented on tape. The research is concerned with questions such as, "Can tape recordings be employed to create group atmospheres which approximate 'real-life' group atmospheres? Will naive *S*s respond to pressures created by recorded voices as they do to live actors who are physically present in the situation?"

SUBJECTS: 60 male undergraduate college students, 20 tested in the other-persons-present situation, 20 in the synthetic or taped situation, and 20 in a control or "alone" situation. Ages ranged from 18 to 28.

PROCEDURE: To study group effects, the task involved the autokinetic experience. Each experimental *S* became a member of one of the groups in either the "face-to-face" or the taped situation. Control *S*s carried out the same task in the "alone" situation. For the experimental groups all participants except the critical *S* gave a standard set of precoded responses throughout the 15 trials. Before giving his judgment of the amount of movement experienced the critical *S* heard the judgments given by the rest of the group.

RESULTS: No significant differences were found between the responses given under the actual as compared with the taped situation. Both groups differed significantly from the control group which had responded without group pressure. No *S* diagnosed the concealed feature that involved the recorded aspect of the experiment.

CONCLUSIONS: Skillfully prepared tape recordings may be used to create group atmospheres. Where recordings can be used instead of their "real-life" counterparts, a great deal of experimental effort is saved, because the need for hiring actors to be present for each creation of the situation is alleviated. Most important, both the experimental situation and the prior instructions become subject to much more rigorous standardization under these conditions than when live performers are used.

Excerpts from tapes used in this study will be demonstrated.

McCoy, E. P. *see* McIntyre, C. J.

MacDonald, Martha W. *see* Thompson, Clare W.

McDowell, Arnold A. (*University of South Dakota*) **A normative study of the behavior of caged macaque monkeys.** (Sponsor, Roger T. Davis)

PROBLEM: The purpose of this study was to collect and analyze data on the total behavior of caged monkeys (*Macaca mulatta*). Other investigators who have observed monkeys have selected particular aspects of behavior, such as mating, and neglected much of the total behavior picture.

PROCEDURE: Sixteen monkeys were observed, two at a time, for 96 days. Two 10-minute observations were made each day. The observations were recorded by talking into a microphone connected to a tape recorder. The order of observation was systematically randomized using permuted 8×8 latin squares with

factorial notation on the columns. Each observation was transcribed and analyzed as follows:

TREATMENT OF DATA: The results were broken down into various behavioral units to determine the relative frequency of different kinds of behavior (other animal involved, self involved, inanimate object involved, and object involvement not discernible). A secondary breakdown was made of behavioral units involving specific other animals, particular inanimate objects, etc. A tertiary breakdown was made of activities within the larger units of behavior (i.e., grooming, slapping, and chasing cagemate within a single animal involved behavior unit). Also, specific things done relative to specific objects involved were enumerated. In addition, diurnal variations and time variations of all of the above were treated.

RESULTS: The most striking findings in this investigation were: (*a*) greater frequency of activities involving other animals, (*b*) the focusing of nearly a third of all behavior on inanimate objects, and (*c*) surprisingly little sex behavior relative to the total behavior.

McFarland, Robert L., Becker, Wesley, Docter, Richard, Sessions, Alwyn, & Ullmann, Leonard. (*VA Hospital, Palo Alto, California*) **Measures of reality orientation.**

This group research project investigated a series of potential testing devices for assessment of reality orientation.

DESIGN: Thirty-one consecutively admitted male veteran patients who met the following criteria were used as *S*s: (*a*) under the age of 45 years, (*b*) not suspected of organic pathology, and (*c*) sufficiently cooperative to complete testing. This group consisted mainly of diagnosed paranoid schizophrenics. Each *S* was individually given the Rorschach, three subtests of the Wechsler-Bellevue, the Concept Evaluation Technique, and four new procedures designed to measure varying aspects of reality oriented behavior. Two psychologists other than the examiner then interviewed the patient and independently rated his adjustment and degree of reality orientation. Ratings based on the interview material and similar ratings based on the Rorschach protocols served as criterion measures.

ANALYSIS OF DATA: All measures presumably assessing adjustment, intelligence, and reality orientation were intercorrelated. A cluster analysis was carried out on the resulting matrix.

RESULTS AND CONCLUSIONS: Analysis of data indicated that one test, the Premise Selection Test, was the most promising new measure of reality orientation. This test consists of nine pictures in which people are portrayed in situations where presumably they must choose a course of action based upon one of two socially approved premises but will feel anxious and guilty for not following the rejected premise.

However, for this group of psychotic patients, measures of functioning intelligence, particularly that ascribed to social intelligence, provide equally valid measures of reality orientation. Single measures on the Rorschach do not significantly relate to the criterion measures.

The cluster analysis tentatively indicates three following factors to be operative: (*a*) functioning abstract intelligence, (*b*) functioning social intelligence, and (*c*) a desire "to do well" in the testing situation.

Suggestions for further research in this area are made. (Slides)

McGill, William J. (*Massachusetts Institute of Technology*) **Two sources of transmitted information in sequences of auditory judgments.**

PROBLEM: To study the joint effect of the auditory stimulus and the *S*'s last response in determining absolute frequency judgments.

SUBJECTS: Four normal listeners.

PROCEDURE: The *S*s learned to discriminate four tones, 890, 925, 970, and 1,005 cycles per second, presented one at a time in random order. The tones were equally intense. They were .5 sec. in duration, and 3 sec. apart. During preliminary training a criterion level of mastery of the discrimination was achieved. In test sessions, a masking noise was added and a random sequence of 250 stimuli was presented. Each *S* was tested at 5-db intervals from 15–35 db signal-to-noise ratio. Stimuli were programmed on teletype tape and responses were recorded automatically.

RESULTS: Data were analyzed by an application of multivariate transmitted information. This model permitted simultaneous measurement of the amount of information transmitted from the stimulus and from the *S*'s last response. A pair of weights were computed to show the average importance of these two factors at each signal to noise ratio. Results showed that *S*s' judgments began to become uncorrelated with the auditory stimulus at a signal-to-noise ratio considerably above the masked threshold. As the information transmitted from the stimuli to responses decreased, there was a consistent increase in the information transmitted from the last response. At the masked threshold practically all the transmitted information came from the last response.

CONCLUSIONS: Under the conditions of the experiment it was found that auditory judgments were partially determined by preceding judgments. This effect was maximum for signal-to-noise ratios equal to or less than the masked threshold. (Slides).

McGuire, Carson *see* Barrett, Theodore H., Jr., Findlay, Donald C., Holt, Howard Oliver, and Sutter, Everett L.

McGuire, Carson, Lanmon, Monroe, & White, George D. (*University of Texas*) **Adolescent peer acceptance and valuations of role behaviors.** (Sponsor, Carson McGuire)

The investigation was one of several designed to represent graphically and quantify ways in which adolescents perceive and value one another. Two questions were asked. Did peer acceptance among individuals in a teen-age society shift from one year to another? Was the index of peer status (IPS) estimating a significant source of variation in nominations for stimulus items descriptive of different role behaviors?

Subjects were 325 adolescents in the senior grades of Textown High in one year and 339 in the next year. Most of the 223 in grades ten and eleven returned the following year. Basic data on age, sex, family background, verbal ability, and school achievement were available for *S*s.

Sociometric valuations were elicited each year. Following procedures reported in *Child Development* for June, 1952, sociographs were constructed from the nomination data and sociographic IPS's calculated for each *S*. Short descriptive paragraphs were employed to obtain unrestricted nominations for "wheel," "brain," "outsider," "mouse," "drip," and "wild one" categories. Equal subsamples of 10 *S*s by sex, age-grade, and peer status were drawn for analysis of variance in 180 transformed role behavior scores by category each year.

Sociographs showed constant patterns from year to year. Although shifts in peer acceptance occurred, covariance from year to year in IPS was highly significant. A relatively low correlation was found between age-mate acceptance (IPS) and family background (IVO). The index was related to grade-point average but not to verbal ability. In the factorial analysis of role behaviors, the F tests for peer acceptance levels all were significant in both years. Sex and age-grade had some interactions with peer status.

The findings demonstrate the relative stability and independence of IPS as a measure of peer acceptance among adolescents. Acceptance-avoidance phenomena appear to enter into valuations of role behaviors. (Slides)

McHugh, Richard B. *see* Ellis, Douglas S.

McIntyre, C. J., Carpenter, C. R., Greenhill, L. P., Hittinger, W. F., McCoy, E. P., Murnin, J. A., & Watkins, R. W. (*Instructional Film Research Program, The Pennsylvania State College*) **The development of a sound motion picture proficiency test.** (Sponsor, C. R. Carpenter)

PROBLEM: The purpose of this research was to determine the feasibility of employing sound motion pictures as a measure of proficiency testing in lieu of performance tests. It was hypothesized that to the degree that the sound motion picture can be used to represent performance situations more fully, realistically, and concretely than can be done with paper-pencil tests, there would be a corresponding advantage in terms of validity favoring motion picture tests over paper-pencil tests.

SUBJECTS: 328 enlisted personnel who had completed the Track Vehicle Repairman Course given at the Aberdeen Proving Grounds.

PROCEDURE: The Track Vehicle Repairman Course was studied and 208 film problems relative to it were produced. These were tested on the *S*s who had completed the course immediately prior to testing. Two approximately equivalent tests of 59 problems each were constructed based upon (*a*) item validity, (*b*) item difficulty, (*c*) degree of utilization of the potentialities of the motion picture medium, and (*d*) course coverage. The reliability and validity of these tests were computed and compared with the currently used paper-pencil end-of-course test.

RESULTS: The motion picture tests were found to have a reliability of .92, but were not significantly superior to the final paper-pencil test in predicting course success.

CONCLUSIONS: The feasibility of developing sound motion picture tests which yield high reliability has been demonstrated, although little difference in validity between film tests and paper-pencil tests measuring parallel content has been demonstrated.

MacLeod, Shelton, & Bartlett, Neil R. (*Hobart College*) **Reaction time as a function of flash and field luminance.**

This research was sponsored by the Office of Naval Research, Project (Nonr-572(00)).

PROBLEM: To study the effects of flash and field luminance upon simple manual reaction time to the flash in the periphery and the fovea.

SUBJECTS: 2 highly trained *S*s were used.

APPARATUS: A double-beam optical system was used which afforded independent intensity variation of a 15° circular field and a 19′ circular flash centered in the field. Accessory fixation devices afforded either

foveal presentation or 11° peripheral presentation of the flash. Sharp onset and constant duration of the flash were provided by a mechanical shutter. Reaction time (RT) was read from an electronic counter triggered by a photocell and stopped by manual release of a microswitch.

PROCEDURE: Before any session *S* was dark adapted then light adapted to the prevailing field illumination. In a single series 18 identical flashes were repeated at one field luminance (9 foveal and 9 peripheral). Several such series representing 3 to 5 changes in either flash or field luminance constituted a daily session. Three field luminances (0, .4, and 40 ma.) were selected as parameters when flash luminance was varied from near threshold to 1600 ma. Similarly, 3 flash levels (.16, 16, and 1600 ma.) were used when field brightness was varied. At least 4 sessions per *S* were devoted to each flash-field combination.

CONCLUSIONS: The following conclusions are drawn: (*a*) RT decreases systematically as flash brightness increases; the limiting speed was not attained even at peak flash brightness; (*b*) the degree of change is, however, slight except when the flash is near threshold. As threshold is approached (either by increasing field or decreasing flash) RT rises sharply; (*c*) either elevation of field or lowering of flash luminance always tends to increase RT; (*d*) foveal reactions in the present experiment are always faster than comparable peripheral reactions except in the case of very dim flashes with no field. (Slides)

McMichael, A. E. (*U. S. Naval Academy*) **Historical data as a predictor of success in combat.**

PROBLEM: To correlate success in a combat situation with historical personal data which might be readily available to psychiatric screening units in the U. S. Navy. These data were gathered by a clinical psychologist who was a member of a psychiatric unit attached to the First Marine Division from March to December, 1951.

SUBJECTS: The successful group consisted of 300 enlisted men who had been in contact with the enemy, who had not been hospitalized for as long as 24 hours, who had not been a disciplinary case since being in Korea, and who were at the time of the interview attached to one of the regiments within the First Marine Division. The unsuccessful group consisted of those 349 enlisted men who felt that they could no longer tolerate combat, who may or may not have been wounded, but who were admitted at the psychiatric unit.

PROCEDURE: A semicontrolled interview was used as the device for gathering the data. A series of key questions was devised and the questions were asked in the same sequence in each interview with each group. Between these key questions the interview was allowed to fluctuate with the needs of the interviewee. The purpose of each interview was to gain as much historical information from both groups in as short a time as possible. An attempt was made to equate these two groups on four variables. These were age, rank, unit (company, battalion, and regiment), and time spent in Korea before the interview took place. The data were then classified under several variables relating to developmental information and stress information.

RESULTS AND CONCLUSIONS: Comparison of the two groups on the four variables indicates that these groups were equated. The results indicate that there are definite differences as indicated by the research interview findings of the developmental vs. stress information variables. (Slides)

McMillan, John J., & Silverberg, Jacob. (*VA Hospital, Richmond, Virginia*) **A sociometric comparison between hospitalized groups of veterans with varying degrees of interpersonal disturbances.**

PROBLEM: If emotional disturbances reflect disturbances in interpersonal relations, and if the sociometric choice process is a direct measure of interpersonal relations, how will interpersonal disturbances be reflected in the sociometric choice process?

Several indices of psychological disturbances found in various hospitalized groups were investigated for their predicted relationships to such sociometric measures as reciprocation, intercriteria overlap, acceptability score patterns, and trend differences regarding positive and negative choices.

SUBJECTS AND PROCEDURE: Patients on five wards of a VA hospital were given a sociometric test, the choice range on each ward being restricted to the selected participants on that ward. Patients selected had been on the ward at least one week, were ambulatory, and testable. Ward populations ranged on a continuum from a neurological to a psychotic group. The 13-question test contained 6 positive, 4 negative, and 3 relatively objective criteria, three choices being required for each. A modified technique was introduced whereby a group photograph in which *S*s were identified by number was used as the source from which choices were made.

RESULTS: Reciprocations: negative criteria produce significantly fewer reciprocations from all groups; both positive and negative reciprocations are not progressively reduced with increased disturbance but appear reduced in that group where acute anxiety is primary. Intercriteria overlap: negative criteria show a trend toward higher overlap in more disturbed groups. This does not appear with positive criteria. Acceptability scores: objective criteria show greater concentration of choice than do subjective criteria;

however, within subjective items negative criteria show greater concentration than positive criteria.

CONCLUSIONS: The effects of anxiety and hostility as reflected in groups of varying degrees of interpersonal disturbance appear to be significant factors in their differential sociometric choice patterns. Other aspects of disturbed interpersonal relationships are not comparably discriminating. Implications for Sullivanian theory are discussed. (Slides)

McQuitty, Louis L. (*University of Illinois*) **Pattern analysis illustrated in classifying patients and normals.**

PURPOSE: This paper describes and illustrates a method of pattern analysis. The method (*a*) determines what patterns of responses occur empirically, (*b*) rapidly scores every *S* in terms of the pattern of every other *S*, and (*c*) utilizes the pattern scores to classify all *S*s into groups which are meaningful and testable in terms of external criteria.

ILLUSTRATION OF THE METHOD: The method is illustrated by applying it first to a sample of each of two populations, and again to a cross-validity sample, of each of the two populations in order to classify the latter *S*s into their respective populations on the basis of their test responses, exclusively. The results of the classifications are compared with external criteria.

SUBJECTS: Two samples of 72 *S*s from each of the following: (*a*) a population of community Negroes and (*b*) a population of Negro mental hospital patients.

THE TEST: The test is a group type one, consisting of 24 stimulus words, each with four answer alternatives, taken from the Kent-Rosanoff word list and responses, respectively. Each *S* was requested to underline the answer alternative which seemed to him to be most forcibly connected with the stimulus word.

RESULTS: For the cross-validity *S*s, ten patients and two "normals" were classified as "pure" patient "types"; 20 patients and ten "normals" were classified as predominantly patient "types"; 38 patients and 52 "normals" as "tainted" community "types" and four patients and eight "normals" as "pure" community "types," with chi-square significance at better than the .01 level.

INTERPRETATION: These tentative "types," as well as the possibility of other "types," can be more critically investigated by a further application of pattern analysis, of which this paper illustrates only a preliminary version, but, nevertheless, shows how to apply the more complete method. (Slides)

Madison, Peter. (*Swarthmore College*) **Need, anxiety, and defense in perceptual recognition.**

PROBLEM: To investigate the perceptual effects of need strength and inhibition aspects of the aggression motive on the tachistoscopic recognition of hostile and neutral picture content.

SUBJECTS: 58 males, half with significant personal hostility problems.

PROCEDURE: Four need strength and three need inhibition ratings were derived from life history, TAT, and Rorschach content. Strength of need estimates included: (*a*) behavioral and (*b*) cognitive (hostile thought preoccupation) estimates of aggression rated from Life History, (*c*) summation of aggressive themes on 10 TAT stories, and (*d*) aggressive content of responses to the 10 Rorschach cards.

Inhibition ratings, all made from life history, included (*a*) gross use of defenses against aggression (*sum D*), (*b*) use of at least one repression-like defense (a hostility cognition-reducing defense, or CRD), and (*c*) anxiety over aggression.

Recognition scores were derived for neutral pictures and a neutral minus hostility recognition speed measure (*d* score) used to indicate hostility perception efficiency.

RESULTS: TAT and Rorschach need strength ratings were significantly ($p = .01$) associated with fast recognition of neutral pictures; TAT agg moderately ($p = .10$), and Rorschach agg not at all with fast hostility recognition (*d* scores). Behavioral agg was unrelated to any type of picture recognition, while high cognitive agg was significantly ($p = .05$) associated with poor recognition of both neutral and hostile (*d* score) content.

The inhibition variables were much more selectively associated with poor hostility (*d* score) recognition limens (all $p = .05$), but only moderately (anxiety), slightly (*sum D*), or not at all (CRD) with neutral recognition speeds.

A combined consideration of all four need strength ratings and all three need inhibition ratings showed a very strong association ($p = .01$) with *d*-score speeds that was significantly different from neutral content recognition.

Mahan, William W., Jr., & Fruchter, Benjamin. (*University of Texas*) **A factorial comparison of five mental abilities using scores derived from speeded and unspeeded tests.**

The purpose of this study is to compare patterns resulting from the same battery of tests administered under unlimited (power) and extremely limited (speed) time. The present study seeks to analyze discrepancies on a basis of type of factor. Included are factors that seem predisposed to be favored, some by power and some by speed.

A battery of tests was administered to a group of 200 students, 109 females and 91 males, at a typical middle-class suburban high school located at Berkley, Michigan. Of the above cases, 62 were freshmen,

138 seniors. Students tested were enrolled in all types of curricula offered in the school.

Two 15 × 15 intercorrelation matrices were constructed. One matrix consisted of five tests administered under conventional time limits (reference tests) and 10 tests administered under highly speeded conditions (speed). The other matrix consisted of the same five reference tests and also the same 10 tests, previously administered using speeded conditions, now administered under unlimited time (power). The above matrices were factor analyzed by the multiple-group method. The speed and power matrices each had five factors. These factors were rotated directly in one operation to primary structure. Three additional rotations of the power factor loadings made them comparable to the speed loadings.

RESULTS: (*a*) A factor analysis of the speed scores failed to isolate a so-called "g" factor which might be the result of a general speed factor. (*b*) Two of the factors, perceptual speed and numerical ability, were best measured in limited time. (*c*) One factor, spatial-visualization, was best analyzed and evaluated under power conditions. (*d*) Verbal and reasoning tests showed a minimum of variation on factors extracted from the two matrices.

For the sample studied, four of the five factors were seen to be better, or equally well, represented by using tests administered under abbreviated or highly speeded time limits.

Maher, Howard. (*Ohio State University*) **Age and ratings of supervisory and technical personnel in a chemical company.**

PROBLEM: To ascertain the relationship of age of rater to ratings assigned to employees of various ages; as a corollary problem to examine the trends of various rating "traits" with age.

SUBJECTS: Approximately 400 supervisors, administrators, and research scientists in a large, fine-chemical concern. Ages of *S*s ranged from 25 to 65 years.

PROCEDURE: Ranks assigned to ratees of various ages were broken down by age of rater to see if differences existed. Results were studied in terms of correlation of transmuted standard scores to age of ratee for each of the age-rater groups. In addition, each of the items of another rating system was studied for age trends.

RESULTS: (*a*) No appreciable effect of the age of the rater on test scores assigned to ratees of various ages was discovered. (*b*) Some item differences were found between younger and older workers. (*c*) Some of these differences, as on "promotability" items, are seen as unduly handicapping the older worker's score more in terms of age per se than in terms of everyday job performance.

CONCLUSIONS: Rater age had no effect on the ratings assigned to employees of various ages. Younger workers had lower average rating scores than middle-aged workers, but some of this was occasioned by inclusion of items in the score that judge older workers in terms of age rather than ability.

Mahoney, Gerald M. (*Ann Arbor, Michigan*) **Supervisory and administrative practices associated with employee attitudes toward an incentive system.**

As part of a 10-year program of research into the principles underlying organizational effectiveness, a survey of employee attitudes and opinions was conducted in a large home appliance industry. A total of about 3,500 factory workers, office workers, and supervisors answered questionnaires dealing with attitudes and opinions toward the job as a whole, the company, wages, promotions, supervision, the union, union-management relations, and the time study and incentive system.

This paper presents results of some of the analyses that have been carried out on attitude and opinion measures obtained in this survey. Primarily, the findings given here deal with relationships between foreman communication and foreman power, on the one hand, and worker satisfactions with the time study and incentive system, on the other.

Satisfaction with the system is more widespread among workers who say that their foremen explain things about the system, do a good job of explaining the reasons for changes in labor standards, and tell the men beforehand when changes are coming up. Among workers who say their foremen do not do a good job of communication there is much less satisfaction with the system. This relationship between foreman communication and worker satisfaction with the system is much closer where the foreman is seen as taking steps to make the system work by getting the men to adhere to the methods prescribed by the system than it is where the foreman is seen as not taking active steps in this direction.

Satisfaction with the system is also more prevalent among workers who report that time study engineers do a good communication job than it is among workers who say they do not communicate.

Malmo, Robert B. *see* Smith, A. Arthur

Malpass, Leslie F. (*Southern Illinois University*) **Correlations between students' perceptions of school and achievement in school.**

PROBLEM: The purpose of the study was to investigate some relationships between students' perceptions of different aspects of the school situation and their achievement in school. The major hypothesis was:

There is a relationship between students' perceptions of school and achievement in school.

SUBJECTS: 92 eighth grade students.

PROCEDURE: *Ss* were tested with three projective instruments presumed to measure perceptions about school; a sentence completion test consisting of 50 incomplete sentences; an apperception test consisting of 10 cards depicting children in various school settings; and an autobiographical-type composition in which *Ss* expressed their feelings about school. The responses to the three tests were categorized in five areas, representing students' perceptions about teachers, about their classmates, about school achievement, about school discipline, and about school in general. Interjudge and retest reliability estimates of judges' response ratings were obtained.

In order to measure achievement, two traditional types of criteria were employed, end-of-semester grades and standardized achievement tests.

Correlations were run between the measures of perception and achievement criteria, with the effects of intelligence partialed out of the achievement measures.

RESULTS: Correlations significant at the 1% level were obtained between measures of perception and end-of-semester grades; no correlations significant at this level were observed between responses to perceptual tests and standardized achievement tests.

CONCLUSIONS: Students' perceptions of school seem to be related to achievement as measured by grades; they do not seem to be related to achievement as measured by standardized tests.

Mandler, George. (*Yale University*) **Effect of overtraining on three conditions of transfer.**

PROBLEM: To determine the effects of overtraining in a perceptual-motor task on subsequent transfer situations which utilize either identical or new stimuli and responses.

SUBJECTS AND PROCEDURE: 60 college sophomores were assigned at random to five experimental groups. The task consisted of learning to push combinations of three out of six levers in response to letters as stimuli. The five groups were trained to a criterion of 0, 10, 30, 50, and 100 errorless trials, respectively, on a four-item training task. An eight-item transfer task then tested four conditions: (*a*) learning to make a new response to one of the stimuli used in the training task; (*b*) learning to make a response used in the training task, to a new stimulus; (*c*) learning to make a response used in the training task, to one of the training stimuli, when these had not been previously paired; (*d*) learning to make a new response to a new stimulus. Condition *d* was used as a control for warm-up and other training effects.

RESULTS: Condition *a* showed increasing negative transfer as a function of degree of original training up to the 30 correct trials group, but zero transfer for the 100 correct trials group. Condition *b* showed increasing positive transfer as a function of degree of training. Condition *c* showed variable, nonsignificant transfer initially, but significant positive transfer for the highest degree of training. A comparison of the three conditions indicated increasing positive transfer from Cond. *a* to *c* to *b*, regardless of degree of training in this task.

CONCLUSIONS: (*a*) Significant transfer effects can be obtained at high degrees of overtraining, even when the additional training produces no measurable improvement during training. (*b*) Traditional paradigms of associative interference are not applicable at high degrees of training. (Slides)

Mapou, Albert. (*U. S. Employment Service, U. S. Department of Labor*) **Development of general working population norms for the USES General Aptitude Test Battery.**

The General Aptitude Test Battery (GATB), B-1001, of the United States Employment Service (USES) comprises 15 tests which measure 10 aptitudes. This battery is used in local Employment Service offices for employment counseling. The USES conducts test research with the GATB on various occupations ranging from unskilled jobs to professional vocations and occupational norms are established. General working population norms were needed to establish standard scores as a basis of comparison for the evaluation of the aptitude profiles of individuals tested for counseling purposes and the profiles of occupational groups tested for research purposes. Since the GATB is used nationally for a wide range of occupations, it is desirable that general population norms for this battery be based on a sample which represents, as closely as permitted by available data, that portion of the general working population of the United States for which aptitude tests are most commonly used.

Census data were consulted to determine the characteristics of the population to be represented by the sample to be employed for establishing GATB general working population norms. Factors such as occupation, age, sex, and geographic location were considered, and the stratified quota method of sampling was employed in so far as practicable. A representative sample of 4,000 cases was selected from about 8,000 cases for which appropriate research data were available. Elimination of about 4,000 cases was necessary to effect proper stratification. Since it was not possible, with the amount of data available, to achieve the desirable stratification with respect to all control factors considered, occupation was established as the

primary control factor. Standard score distributions were established on the basis of the means and standard deviations obtained on each GATB test for the sample of 4,000.

Marchetti, Pietro V. (*University of Illinois*) **Some aspects of the manager-employee relationship in the retail grocery.**

In the writings of psychologists who study leadership, as well as in the writings of persons who may be laymen in psychology but nonetheless seriously interested in the problem of leadership, we find the suggestion that the leader's "understanding" of the followers is a factor in his effectiveness as a leader. By "understanding" is meant sensitivity to or an awareness of the motivational factors in the group members' behavior; e.g., their values, motives, attitudes, and sentiments. Some writers choose to speak not of understanding but rather of empathic ability or social perception. A technique which has achieved much popularity as a means of quantification of this variable involves noting the disparity between one's predictions of the responses of another person to a given stimulus situation (typically, a paper-and-pencil device) and the self-responses of the other person. The score is an error score. The smaller the numerical value of the score the greater the amount of understanding.

This technique was employed in getting measures of understanding between managers and rank-and-file in each of five shops of an Illinois chain of grocery stores. Two supraordinates of the managers ranked them twice—once in terms of each of two different aspects of manager effectiveness. One of these supraordinates of the managers ranked the shops in terms of efficiency of operation. All of the 20 coefficients of correlation between the measures of understanding and the rankings of the managers and of the shops were negative, although not statistically significant at either the 5% or 1% level. It is suggested that these results are not most reasonably interpreted as evidence for the rejection of the central hypothesis of this study. In terms of a predictor-criterion relationship, one must consider in such a study the possibility of a criterion with too limited relevance to the psychologically "real" situation. Evaluations of the efficiency of an industrial group typically are not influenced by efficiencies of the individual members of the group. One must recognize, too, possible limitations of the predictor. The validity of accuracy of prediction of the responses of another as an indicant of the variable we would measure is not yet conclusively established.

Marcus, Richard E. *see* Fromm, Erika

Margolius, Garry. (*Boston University*) **Stimulus generalization of an instrumental response as a function of the number of reinforcements.**

PROBLEM: To investigate changes in the stimulus generalization gradient as the number of reinforced trials is increased.

SUBJECTS: 154 male albino rats.

PROCEDURE: Four groups were trained to obtain food by opening a door in the center of a 79-sq.cm. white circle. The groups differed with respect to the number of reinforced trials employed in training. After receiving either 4, 16, 64, or 104 training trials the 35 animals in each reinforcement group were divided into five subgroups. Each subgroup was tested on one of the five stimulus circles comprising the stimulus dimension. The circles utilized were 79, 63, 50, 32, and 20 sq.cm. in area. Generalization response strength was ascertained from 30 nonreinforced trials to the test stimulus. If the animal failed to respond within 60 sec. for any test trial, that trial was scored as "no response." Measures included: (*a*) total number of responses in 30 test trials; (*b*) median latency of first 3 test trials; (*c*) number of responses within 60 sec. of cumulative test time.

RESULTS: When the response measure was plotted as a function of log area of stimuli employed, all generalization gradients obtained were negatively accelerated. This held for all levels of reinforcement and for all response measures utilized. As the number of reinforced trials to the conditioned stimulus is increased, both the absolute and the relative amount of generalization was found to increase throughout the range investigated. These results do not support an hypothesis of restriction of generalization as a function of the strength of conditioning.

Markowitz, Gloria *see* Page, Horace A.

Masling, Joseph M. (*Institute for Research in Human Relations*) **How neurotic is the authoritarian?**

PROBLEM: In dealing with a concept such as authoritarianism, social scientists should take special care to make sure that they do not permit their private values to affect their scientific judgment. There is some evidence that the portrait that has been painted of the equalitarian and authoritarian does not fit the facts.

Specific statements have been made by various investigators which indicate that the authoritarian is an exceedingly unpleasant, unhealthy individual. For example, he is characterized as being "cynical," "destructive," "sadomasochistic," "compulsive," "cold," "anal-sadistic," and "conventional." The equalitarian, on the other hand, is said to be "erotic," "impunitive," "warm," "relaxed," "mild," and "group-centered."

If these descriptions are correct, it should be expected that the two groups should differ significantly on a measure of mental health.

PROCEDURES: The results from four separate studies are available to test this inference. One study used 82 patients of the Langley Porter Clinic in San Francisco as *S*s, the Minnesota Multiphasic Personality Inventory as the measure of mental health, and the California Ethnocentrism Scale as the measure of authoritarianism. The second study, using an N of 963 randomly selected residents of Philadelphia, utilized Knutson's Personal Security Scale as the measure of mental health and Sanford's A-E scale as the measure of authoritarianism. The third study used 64 introductory history and educational psychology students at Temple University as *S*s, the Rotter Incomplete Sentences Test as the measure of mental health, and the California F test as the measure of authoritarianism. The last study used the entire population ($N = 49$) of the Neuropsychiatric Hospital at the U.S. Naval Training Station, Bainbridge, Maryland, as *S*s, confinement or lack of confinement at the hospital as the measure of mental health, and scores on the Authority Acceptance Scale as the measure of authoritarianism.

RESULTS: In none of these studies could the inferred relationship between authoritarianism and poor mental health be confirmed. None of the correlation coefficients and other statistical measures computed between the two variables in any of the studies reach statistical significance, despite the fact that four separate measures of the dependent variable and four separate measures of the independent variable were used.

CONCLUSIONS: The characterization of the authoritarian personality has been overdrawn. The concept of the authoritarian personality may be a valuable, heuristic tool, but only if it can be divorced as much as possible from value judgments.

Matter, Jean, Lewin, Miriam, & Bruner, Jerome S. (*Harvard University*) **Utilization of an incidental cue and its bearing on discontinuity in learning.** (Sponsor, Jerome S. Bruner)

PROBLEM: Assume complete discontinuity of learning. If an organism has learned and is responding successfully to a cue, then the introduction of a second cue should provide no further guidance to response since the organism is responding according to an already established hypothesis. Removal of the first cue would require learning *de novo* of the second.

SUBJECTS: 48 albino rats between 80 and 100 days old.

PROCEDURE: A four-unit discrimination maze was used with two doors at each choice point. During training, animals learned to choose either black or white doors to reach food, correct doors being placed in left or right position randomly. After learning was complete, a second cue was introduced: correct doors were placed in a single alternation pattern. After varying amounts of practice with the "double-cue" situation, the black and white pairs of doors were replaced by uniform gray ones. Trials to criterion were then determined, correct response being single alternation. Subgroups varied in degree of hunger (12- or 36-hr. deprivation), number of trials past criterion before introduction of the second cue (0 or 50), and number of trials with second cue present (10 or 20). Control groups with no double-cue condition were also run. Animals were run 10 trials per session.

RESULTS: Under all conditions tested, animals who had operated with the double cue were superior in learning single alternation than corresponding control groups of equal maze-wiseness who had not had double-cue training. Complex differences between subgroups are discussed.

CONCLUSIONS: While responding successfully to one cue, animals learn a second incidental cue introduced into the situation and are able to use this cue after removal of the first one. Discontinuity theory should predict that the second cue should not be learned, given the operation of a hypothesis for the first cue. Alternative formulations are discussed.

Mech, Edmund V. *see* Schaerer, Robert W.

Mech, Edmund, & Auble, Donavon. (*Institute of Educational Research, Indiana University*) **Variability in a classroom task related to an operational shift in verbal reinforcement.**

The problem was that of determining to what extent variability in a routine classroom task is related to an operational shift in reinforcing conditions.

Expectancy theory holds that reinforcement is not necessary for learning to occur. Thus in a cognitive framework reinforcement may be regarded as a principle of performance rather than one of learning. The present experiment intended to test the prediction that organisms perform differentially as a "function" of the presence or absence of reinforcement.

Fifty-one third grade *S*s were randomly assigned to three groups, consisting of 17 *S*s each. Group I, a section of a third-grade class, performed a routine arithmetical task for 10 successive days without reinforcement. On days 11, 12, and 13 verbal reinforcement was given by the teacher.

The remaining two groups were taken from a separate classroom. Reinforcement was given to Group II on days 2 through 6. To change the stimulus conditions on days 7 through 13, verbal reinforcement was withheld. Group III was simply in the

presence of the stimulus changes as given Group II for the 13-day period. A Mann-Whitney nonparametric test for two unmatched groups was used to test for differences.

The following results were obtained: (*a*) A generalizing effect of the stimuli existed between Group II and Group III *Ss*. The effects which were mediated, however, appeared somewhat weaker. The evidence indicated that Group III *Ss*, who simply were in the presence of the reinforcing stimuli, produced fewer correct responses and more error responses than the Group II *Ss*, who received direct reinforcement. These differences, in general, were not statistically significant. (*b*) The latent learning phenomenon was not demonstrated by Group I *Ss*. Instead, when reinforcement was introduced, the error curve for Group I *increased* sharply for days 12 and 13. (Slides)

Meer, Bernard. (*University of Chicago*) **The relative difficulty of the Rorschach cards.**

The significance of the variation in difficulty of the Rorschach cards has been generally overlooked by clinicians working with this test. The present study attempts to determine whether the Rorschach cards do, in fact, vary in difficulty. Three variables were used to measure card variation in difficulty: (*a*) reaction time, (*b*) form level of the first response, and (*c*) subjective judgments of difficulty. Seven hypotheses were tested. The first three predicted that the ten Rorschach cards would be significantly differentiated for each of the three variables. The fourth predicted that the rank order of the cards for reaction time would remain significantly stable even when samples of normal and clinical groups were compared. The last three predicted positive and significant intercorrelations between the three variables; that is, that the cards yielding short reaction times would also show a higher form level for the first response and be judged as easier to interpret than cards yielding long reaction times.

POPULATION AND PROCEDURE: 50 male college students acted as *Ss*. All were tested by the writer. The method of administration was that given by Klopfer and Kelley. To control the effect of card-order on reaction time, the cards were rotated so that each was seen with equal frequency in each of the ten positions.

RESULTS AND CONCLUSIONS: Each of the seven hypotheses was supported, six at the .01 level and one at the .05 level of confidence. Two factors were used to explain the card variation in difficulty: (*a*) the relative ambiguity of the stimulus and (*b*) the location of the least ambiguous form in the blot. It is suggested that the failure to consider the contribution of each stimulus to the final response has led some theorizing about the Rorschach test into blind alleys. The concept of color shock is discussed and re-evaluated.

Meyer, Priscilla. (*University of Akron*) **A study of the production of creative ideas.**

PROBLEM: To develop a method for evaluating experimentally produced ideas and to determine the type of person most likely to produce such ideas.

METHOD: Two hundred University of Akron students were given three civic problems now under discussion in the city of Akron: traffic jams, Christmas shopping congestion, and lack of recreation facilities. The *Ss* were asked to produce all the ideas they could for the solution of these problems. New and "strange" ideas were encouraged; a four-minute time limit was imposed for each problem. In addition, scores on a 20-item Ethnocentrism Scale and total ACE scores were obtained for each *S*.

RESULTS: Ideas on the Christmas shopping problem were used for evaluation. Three independent raters, including a specialist in retail merchandising, scored the ideas according to number of responses per *S*, number of differentiable ideas per *S*, restrictiveness or expansiveness of each idea, originality of each idea, and number of responses involving a denial of the problem. This method of analysis proved workable, and reliability of ratings was good.

To investigate a possible relation between ethnocentrism and production of ideas, 31 highs and 31 lows on the E Scale were matched for intelligence according to ACE scores. Highs and lows showed no difference in the number of responses produced, but the lows produced a significantly larger number of differentiable ideas. The highs produced a significantly greater number of responses which were denials of the problem; the lows produced a significantly greater number of ideas rated as original. Restrictive and expansive ideas were produced by both groups in about equal numbers.

Milano, Eugene J. *see* Zegers, Richard T.

Miller, Daniel R. *see* Hiler, E. Wesley

Milstein, Victor *see* Knopf, Irwin J.

Mink, Walter D. *see* Russell, Wallace A.

Mintz, Alexander. (*City College of New York*) **Time intervals between accidents.**

PROBLEM: What does comparison of time intervals elapsing between accidents reveal about accident proneness? Is accident proneness a relatively constant individual quality, or is it affected by the occurrence of accidents?

SUBJECTS: 178 taxi drivers, whose accident records for one year were made available by Dr. E. Ghiselli.

PROCEDURE: A methodology was developed for the

treatment of the problem, utilizing theoretical deductions about the distribution of time intervals to be expected for events occurring at random during a given period. Several types of computations were made to ascertain whether time intervals between later accidents tended to be shorter, for the same individuals, than time intervals between accidents occurring earlier in the observation period.

RESULTS: No consistent trends toward changes of time intervals were discovered.

CONCLUSIONS: This set of data appears to support the traditional hypothesis that accident proneness remains relatively unchanged after accidents.

Mishkin, Mortimer *see* Teuber, Hans-Lukas

Mishkin, Mortimer, & Pribram, Karl H. (*Department of Neurophysiology, Institute of Living*) **Analysis of the effects of frontal lobe damage in monkeys: I. Variations of delayed response.**

PROBLEM: To determine the effect of varying the predelay cue, the postdelay response, and both, on performance of delayed response by frontal operates.

SUBJECTS: Eight rhesus monkeys, four with bilateral frontal and four with bilateral temporal lesions, the latter serving as controls.

PROCEDURE: (*a*) Traditional method: peanut displayed above left or right of two identical cups; response correct when baited cup is displaced. (*b*) Both cue and response varied: peanut or empty hand displayed above single centered cup; response correct when cup is displaced if peanut had been shown, and not displaced when peanut had not been shown. (*c*) Cue varied: peanut or empty hand displayed in center between two cups; response correct when left cup is displaced if peanut had been shown, and right cup is displaced if peanut had not been shown. (*d*) Response varied: peanut displayed to left or right of single centered cup; response correct when cup is displaced if peanut had been shown on left, and not displaced if peanut had been shown on right.

The first two procedures were balanced for order as were the last two. Fifty trials a day (including repeated correction for errors) were presented for a maximum of 500 trials on each test or until the criterion of 90 correct in 100 consecutive trials was achieved. All delays were 5 sec. with opaque screen interposed, and 5 sec. were permitted for response. The four procedures were repeated using the indirect method of cuing, two dissimilar objects replacing the peanut-no peanut cues.

RESULTS AND CONCLUSIONS: Controls attained criterion on all tests. Frontal lobe operates attained criterion on those procedures (*b* and *c*) in which the traditional, spatial predelay cue was replaced with a nonspatial cue, irrespective of the response required or whether direct or indirect cues were employed. (Slides)

Montgomery, K. C. (*Yale University*) **Instrumental learning based upon novel stimulation and the exploratory drive.**

PROBLEM: Two hypotheses are tested: (*a*) novel stimulation can serve as a reinforcing agent for instrumental behavior; (*b*) the mechanism underlying this kind of reinforcement is an *increase*, rather than a decrease, in the strength of the exploratory drive.

SUBJECTS: 12 female albino rats, 150 days old.

PROCEDURE: The apparatus consisted of a small enclosed Y maze with L-shaped arms and a large Dashiell-type maze which could be attached to either arm of the Y. Each rat was given 48 free-choice trials in the Y maze one arm of which was always a blind alley. On the first 24 trials the D maze was attached to the R arm of the Y for 6 rats and to the L for 6; on the second 24 trials the D maze was shifted to the other arm of the Y. The Y arm entered and the latency of entry were recorded for each trial. All *S*s had free access to food, water, and activity wheels except during their maze runs.

RESULTS: All *S*s (*a*) learned to enter the Y arm leading to the D maze, (*b*) shifted their choice behavior accordingly when the D maze was shifted, and (*c*) exhibited a progressive decrease in latency as a function of number of trials.

CONCLUSIONS: Both the choice and the latency data indicate that learning occurred. Previous evidence shows that novel stimulation arouses the exploratory drive and that strength of drive is a positive function of amount of stimulation. Therefore, because the D maze provided a much greater amount of both intra- and extramaze stimulation than the cul arm of the Y, it is concluded (*a*) that novel stimulation can function as a reinforcing agent and (*b*) that the mechanism underlying this kind of reinforcement is an *increase* in the strength of the exploratory drive. (Slides)

Moran, Louis J. (*VA Hospital, Houston, Texas*) **Conceptualization of word meanings by normal and schizophrenic subjects.**

Eight hypotheses concerning specific distortions in the schizophrenic's understanding and use of word meanings are tested. These hypotheses are derived from the theorizing of Yacorzynski, Cameron, and Goldstein.

Forty pairs of chronic paranoid schizophrenic and normal *S*s are examined. Each pair is matched on Wechsler-Bellevue vocabulary raw score, age, sex, and educational level. All *S*s are rated, but not matched, on cooperativeness.

The examination consists of seven short verbal tests: word association, definition, synonyms (recall), sentence construction, similarities, analogies, word association, and synonyms (recognition). The same 25 words are used in each test.

Comparison of group performances reveals: (*a*) no significant difference in ability to "define" the words, but (*b*) the schizophrenics are significantly less precise in their understanding of word meanings; this becomes evident in a relative failure in differentiating further between word meanings. (*c*) The schizophrenics are significantly less effective in using words as conceptual instruments, i.e., to form verbal concepts or to reason analogically with these words, and (*d*) very significantly less able to integrate these words into meaningful sentences. A low positive correlation between performance level and cooperativeness is demonstrated for both groups, but no difference between groups is evident.

The results support those hypotheses of Yacorzynski, Cameron, and Goldstein which are the subject of this study. It is concluded that the alleged refractoriness of vocabulary to impairment in schizophrenia is an artifact of the instruments ordinarily used to test understanding of word meanings. When more than one response to each test word is elicited, significant differences in the schizophrenic's understanding and use of word meanings begin to emerge. Results are discussed in terms of Goldstein's concept of "dedifferentiation of function."

Morris, Mina D. (*Washington University, St. Louis*) **Personality changes following lobotomy.**

PROBLEM: To evaluate the effect of two types of bilateral prefrontal lobotomies on 18 paranoid schizophrenics.

PROCEDURE: Clinical observations of viscero-somatic reactions are related to patients' Wechsler-Bellevue, Porteus Maze, and Rorschach scores. Results attained prior to lobotomy are compared to those given three weeks, three months, and one year after the operations. Eighteen controls matched on multiple factors permit paired comparisons at the same time intervals.

RESULTS: Following lobotomy, initially matched groups behaved in nonparallel fashion. Performance test items were most effective in reflecting these differences. Lobotomized patients yielded slightly lower mean and median scores after psychosurgery with most pronounced decreases in the three-week postoperative period. Variability in the lobotomized group was reduced, but only at the three-month period was this significant.

In contrast, the controls exhibited significant improvement on the three-week retest. Further increases occurred at the three-month retest and were retained at the end of the year. Performance items yielded significant decreases in variability on the one-year retest. Further analysis of scores indicated that lowered performance after lobotomy was exhibited in those patients who scored in the upper third at pre-operative period of testing. In contrast, patients in the lower third tended toward improved test performance. However, controls show improvement with practice without respect to initial position on scale.

Individual reactions to lobotomy overshadow any group trends within the two lobotomy subgroups. Lobotomized patients tended toward psychomotor retardation which frequently eventuated in apathy. Simplified approach to perceptual tasks led to quantitative reduction of disorders in thinking in *S*s whose personality structure remained basically psychotic.

CONCLUSION: Certain quantitative differences were noted in test responses of lobotomized and control groups and certain qualitative differences in psychomotor retardation and simplicity of thinking were noted.

Morse, Philip W. (*VA Regional Office Mental Hygiene Clinic, Hartford*) **Evaluation of psychotherapy at a Veterans Administration mental hygiene clinic.**

PROBLEM: To evaluate quantitatively the effect of psychotherapy conducted at a VA mental hygiene clinic in terms of general and specific features of behavioral adjustment.

PROCEDURE: A rating scale of patient behavior was devised including six general adjustment areas: symptomatology, accessibility to psychotherapy, vocational adjustment, social adjustment, and family adjustment. These areas were further subdivided into 39 scaled items couched in behavioral terms ranging from maladjustive to adjustive behavior. Ratings were made by therapists before and after therapy in order to assess changes in adjustment level.

DATA AND RESULTS: Data have been gathered on 73 patients. Statistical analysis utilizing chi-square and analysis of variance techniques indicate general improvement in our patients following psychotherapy. This improvement follows a regular pattern. There are significant differences in the degree to which patients improve among the six general adjustment areas. Greatest change is found in the areas of symptomatology and vocational and social adjustment. Accessibility to psychotherapy is somewhat improved. Family and sexual adjustment remain relatively unchanged. Data revealing specific behavioral adjustments are of special interest. These data indicate that our patients benefit by reduction of consciously

experienced anxiety, gain some understanding of the meaning of their symptoms, feel more accepted by co-workers and employers, have improved attitudes toward their jobs, and become more active and competent socially. Further, our patients decrease their use of symptoms as attention-getting and rationalizing devices, are more accessible to psychotherapy, have improved attitudes toward their coworkers and employers, and participate more in recreational activities.

The paper presents the methods by which these data were gathered and evaluated, elaborates on the findings, explores the possible relationships between these findings and the kind of therapy available at this clinic, and proposes other avenues of research suggested by these findings.

Morsh, Joseph E., Burgess, George G., & Smith, Paul N. (*Technical Training Research Laboratory, HRRC, Chanute AFB*) **Student achievement as a measure of instructor effectiveness.**

PROBLEM: To determine whether or not a reliable criterion of instructor effectiveness in terms of student achievement could be developed and to find correlates therewith.

SUBJECTS: 106 instructors of an Air Force technical school and approximately 3,000 airmen students (two complete classes per instructor).

PROCEDURE: Mean class achievement was predicted by means of a regression equation involving the regression of previous grades, aptitude measures, and a pretest on final course grade. The measure of instructor effectiveness was the extent to which obtained class means exceeded or fell below the predicted mean. A variety of instructor measures such as subject matter knowledge, length of experience, intelligence test scores, verbal facility ratings, and scores derived from personality measures were obtained, as well as student, peer, and supervisor ratings of instructors.

RESULTS: Mean class achievement (above or below prediction) had a reliability of .56 as a measure of instructor effectiveness. Average student ratings likewise had a reliability of .56 from class to class. There was a correlation coefficient of .36 between student ratings and the criterion of instructor effectiveness. Pooled peer ratings correlated with supervisor ratings .77 but neither of these measures was significantly related to the criterion. Relationships between the various instructor variables and the criterion were also not significant. The study establishes that instructor performance can be measured in terms of student achievement and that student ratings of instructors do to some extent reflect the effectiveness of the instructor as a teacher.

Moseley, Alfred L. (*Harvard School of Public Health*) **Hypnagogic hallucinations in relation to accidents.**

Psychological interviews were conducted with 20 local and 33 long-distance drivers as a part of analysis of fleet accidents. The search for driver-related accident causes revealed that in a collision resulting from a maneuver to avoid an animal in the road an eye-witness failed to confirm the reported presence of the animal. The driver admitted that he had been very sleepy, and that in this condition he "sees things that are not there." Thirty-three long-distance drivers reported visual hallucinations which they experienced while driving. Local drivers did not report the phenomena on city runs. In two instances the hallucinations resulted in collision, and in one instance a question of psychopathology is raised. The hypnagogic phenomena occurred typically (*a*) at night, (*b*) on long-distance runs, (*c*) while the vehicle was moving, (*d*) while driver activity was at a low level, and (*e*) while the driver was feeling fatigued and sleepy. (*f*) The hallucinated object required an emergency stop to avoid collision, (*g*) which procedure the driver carried out without knowing the situation was not real. An explanation is suggested involving fatigue and the wish to go to sleep. The repressed wish to sleep is converted into a perceptual situation which makes stopping a necessity and acceptable. Insight into the "unreal" nature of the phenomenon follows the completion of the emergency procedure. No suggestion is made to explain the content of the hallucinations since their analysis may be complex. Similar phenomena may be observed in other sedentary occupations in the analysis of errors or accidents.

Moss, Gilda *see* Aikman, Louis

Mount, George E. *see* Case, Harry W.

Moustakas, Clark E. (*Merrill-Palmer School*) **The frequency and intensity of negative attitudes expressed in play therapy: a comparison of well-adjusted and disturbed young children.**

A study was made of the frequency and intensity of expression of negative attitudes of nine well-adjusted and nine disturbed young children, matched in various characteristics. Each child had four play therapy interviews. Verbatim tape recordings of the children's statements and stenographic notes of movements and actions were kept on each child.

Two hundred and forty-one negative attitudes were reliably selected from the first and third play interviews. These attitudes were reliably rated in terms of intensity of feelings expressed.

Both groups of children expressed about the same types of negative attitudes. The disturbed group expressed a significantly greater number of negative attitudes with significantly greater severity of accompanying feeling. The disturbed group expressed significantly more frequent and more severe negative attitudes of diffuse hostility, hostility toward home and family, cleanliness anxiety, orderliness anxiety, and regression in development. Hostility toward people in general and hostility toward parents were expressed more intensely, but not significantly more frequently, by the disturbed group. The well-adjusted children expressed significantly more frequently, but not more intensely, the negative attitudes of hostility toward siblings. Though both factors were significant, intensity of attitudes differentiated disturbed children from well-adjusted children more clearly than frequency. The disturbed children expressed negative attitudes in a more diffuse pervasive manner, while the negative attitudes of well-adjusted children were more specific and focused. It is possible, as this study suggests, that as therapy progresses the negative attitudes of the disturbed child may become similar to those of well-adjusted children, expressed more clearly and directly, less frequently, and with mild or moderate intensity of feeling.

Murfett, Betty J. *see* Knopf, Irwin J.

Murnin, J. A. *see* McIntyre, C. J.

Myers, Charles T. (*Educational Testing Service*) **Validity study of six spatial relations tests.**

PROBLEM: To determine the homogeneity and validity of six spatial relations tests as predictors of engineering drawing grades.

SUBJECTS: 250 male first-year college students.

PROCEDURE: The six 20-minute spatial tests were given to the group of students near the beginning of the school year. Correlations were computed between the several tests and between each test and first-year grades in mathematics and engineering drawing. The correlations were analyzed by the centroid method.

RESULTS: Intercorrelations between the tests ranged from .34 to .58 with a median of .48. Validity coefficients ranged from .16 to .40 with mathematics and from .37 to .68 with drawing grades. The factor analysis indicated a grade factor and two closely related spatial factors (correlation about .7). These two factors were best defined by tests specially designed to increase their factorial "purity." These "pure" tests had the lowest validities of the six tests. One of the spatial factors was found to be related more closely than the other factor to each of the criterion scores. The relationship of these factors to factors found in other studies will be discussed.

Nagle, Bryant F. (*Occupational Research Center, Purdue University*) **Productivity, employee attitude, and supervisor sensitivity.**

An implied or expressed assumption in attitude measurement in the industrial situation is that attitudes are related to productivity. Unfortunately, this assumption has not often been subjected to experimental verification. Likewise, the role of sensitivity or empathy in attitude formation has received little attention. In this study the relationship between productivity and employee attitude toward department supervisor is investigated. Corollary to this is the investigation of supervisor sensitivity to employee attitude and its relationship to both attitude and productivity.

The population used in this study comes from the office force of a large industrial organization. Fourteen departments employing a total of 223 employees are involved. Productivity has been measured by having six executives make a paired-comparison rating of how well the 14 departments are doing their jobs. Employee attitude toward department supervisor has been measured with a 22-item scale from an attitude questionnaire. Supervisor sensitivity to employee attitude toward the supervisor has been measured by having the supervisor predict how his employees answered the 22 scale items on the questionnaire.

The correlation between rated productivity of the department and the average employee attitude toward the department supervisor is .86. The correlation between supervisor sensitivity to employee attitude toward the supervisor and employee attitude toward the supervisor is $-.90$ (the more sensitive the supervisor, the higher the employee attitude). The correlation between supervisor sensitivity and rated productivity is $-.82$ (the more sensitive the supervisor, the higher the productivity). While no causality may be stated in these relationships, the correlations do uphold the assumptions that attitude is related to productivity and that sensitivity is related to attitude. These relationships further emphasize the importance of the role played by the supervisor in the industrial situation. (Slides)

Nelson, Kenneth G. (*Michigan State College*) **The interests of teachers of vocational agriculture as related to vocational satisfaction.**

In an effort to study the relationship between measured interests and job satisfaction, a Teacher of Vocational Agriculture Scale was constructed for the Strong Vocational Interest Blank based upon a criterion group of 202 Iowa and Illinois teachers of vocational agriculture and using the methodology common to these scales. The validity and reliability of this scale was studied by its application to a new

sample of 100 Minnesota teachers of vocational agriculture and also with a sample of teacher trainees preparatory to the study of relationships between measured interests and job satisfaction.

Vocational satisfaction of teachers of vocational agriculture was studied by the use of two scales designed to measure occupational and job satisfaction. Relationships between measured job satisfaction and inventoried interest in terms of the Teacher of Vocational Agriculture Scale and other occupational scales as well as individual item responses of the Strong Vocational Interest Blank were studied. A Teaching Satisfaction Subscale was also constructed.

MAJOR FINDINGS: In the cross validation of the Teacher of Vocational Agriculture Scale it was found that this scale had sufficient reliability and validity for use as an occupational scale of the Strong Vocational Interest Blank. It was found that this scale was not significantly related to measured job satisfaction. The Teaching Satisfaction Subscale based upon responses of differential satisfaction groups of teachers was found to have sufficient reliability and validity in the prediction of job satisfaction to suggest possible values in predicting this particular aspect of work adjustment. A study of the item response weights of this subscale indicated that the interests which differentiate variable satisfaction groups of teachers of agriculture relate mainly to the function of teaching. A similar study of the item response weights for the Teacher of Vocational Agriculture Scale indicated that the interests which differentiate this group from men in general relate to what they teach, namely agriculture.

Nelson, Willard H. (*Alabama Polytechnic Institute*) **Evaluation of teacher understanding of child behavior.**

PROBLEM: To discover whether understanding of child behavior as measured by a specially designed instrument is related to instructional procedures employed in teacher training classes, with particular reference to the child study tactic.

SUBJECTS: The responses of 1,203 *S*s were utilized in development of the instrument and exploratory testing of hypotheses. The populations were drawn principally from teacher training classes at the University of Nebraska and Alabama Polytechnic Institute; 510 *S*s had experienced the child study tactic; teaching experience and level of training varied.

PROCEDURE: *The Case of Mary Bye* consists of a child study record of a real child and has items which are the reactions of teachers to that record. Responses of a criterion group of child study specialists determined the keying. Validity of the instrument rested upon method of development, item analysis (total score as criterion), agreement of instructor rating of students with students' scores, and appropriate correlations with other tests. Reliability coefficients by three methods varied from .72 to .80.

Differences in outcomes associated with varying instructional procedures were investigated.

RESULTS: The trend was for *a* populations (having experienced the child study tactic) to score higher than *b* populations on both *The Case of Mary Bye* and a test of factual knowledge of human development. Mean differences increased with increased experience in the child study tactic on the part of *a* populations.

Responses of 63 students indoctrinated in a "positive approach" differed very significantly from *a* students at the same level.

CONCLUSIONS: *The Case of Mary Bye* is an acceptably valid and reliable group test of understanding of child behavior warranting further study and refinement and also employment as an instructional device. The child study tactic has value in preservice teacher training classes as well as in work with in-service teachers.

Neu, Ruth A. (*Montefiore Hospital*) **Reality sense in schizophrenic patients.**

PROBLEM: To compare the reality sense of schizophrenics with that of normals by using two scores within the Cloud Picture Test: Realityboundedness and Formboundedness. Realityboundedness defined as the approximation of the testee's imaginative percepts to apparent visual reality; formboundedness the approximation of outlines drawn by the testee to outlines given in the stimulus material.

The schizophrenics were expected to score as a group significantly lower in both respects.

SUBJECTS: 34 schizophrenic women, minimum of ten years' hospitalization, white, Americans, age between 20 and 50; 34 supposedly normal women, white, Americans, same age.

PROCEDURE: The Stern Cloud Picture Test, which consists of three shaded cloud pictures of different degree of blurriness, was administered to each testee. The *S*s gave verbatim perceptual responses and outlined them, and then were put through the suggestion part of the test.

RESULTS: The normal group scored higher in realityboundedness and formboundedness. The *t* ratio for normal to schizophrenic group was 4.76 for realityboundedness; 2.90 for formboundedness. The difference in each area is statistically significant beyond the 1% level. No significant relationship between formboundedness and realityboundedness exists in the normal group ($r = .22$), whereas a highly significant relationship exists in the schizophrenic group ($r = .65$).

On realityboundedness all schizophrenics tended to rate low, all normals high. On formboundedness the pattern varied from expectation in respect to distribution of ratings within the group: some gifted normals neglected the form; the pathological *S*s veered from complete disregard of, to anxiously clinching to the shape in the picture.

CONCLUSION: The experiment confirms the reflection of loss of reality sense. The test furthermore shows in this respect a sharp distinction between normals and schizophrenics as a group. Although schizophrenia cannot be diagnosed from these scores alone, in combination with the other scores of this test presently in detailed study, such diagnosis, including better discernment of the degree of deterioration and potentialities of recovery, should become possible.

Newlin, E. P. *see* Garvey, W. D., and Knowles, W. B.

Newman, Slater E., & Highland, Richard W. (*Human Resources Research Center, Keesler AFB*) **An experimental comparison of two methods of technical instruction.**

PROBLEM: To compare the examination performance of students who have been taught by a method which emphasizes the information-giving role of the instructor (Instructor Group) with performance of students who have been taught by a tape-recorder plus workbook method of instruction (Tape-Recorder Group).

SUBJECTS: 289 airmen awaiting attendance at the Electronics Fundamentals Course, Keesler AFB.

PROCEDURE: Classes of the Instructor Group ($N = 64$) were taught a five-day course in principles of radio by either of two instructors, who were rated well above the average in instructional ability by their supervisors. The classes of the Tape-Recorder Group ($N = 64$, matched with the Instructor Group on Electronics Technician Aptitude Index) were exposed to similar content through a series of tape-recorded lectures and accompanying workbooks. A 117-item examination, chosen from 205 items on the basis of item analysis against total score for the Instructor Group, was administered to classes of both groups at the end of the five-day course. This examination was administered also to members of a matched Control Group ($N = 161$) who underwent no training.

RESULTS AND CONCLUSIONS: Although there was not a significant difference between performance of the Instructor and Tape-Recorder Groups, both groups performed significantly better than the Control Group. Performance of the Tape-Recorder Group was comparatively better on items covering the first third of the course, performance of the Instructor Group being comparatively better on items covering the latter two-thirds of the course. The possible implications of these findings for research in the area of "teaching methods" are discussed.

Noble, M. E. *see* Bennett, W. F.

Noble, M. E., & Bahrick, H. P. (*Ohio State University and Ohio Wesleyan University*) **The effect of motor task redundancy and level of practice upon interference between two tasks.**

This work was supported by USAF Contract No. AF 33(038)-10528, monitored by the Perceptual and Motor Skills Research Laboratory, Human Resources Research Center.

PROBLEM: The hypothesis investigated was that interference resulting from an extra task being performed simultaneously with a primary task is determined by both primary-task redundance and level of practice of the primary task. Specifically, it was predicted that such interference would be small when the primary task is both redundant and overlearned relative to the interference when the primary task is not redundant and/or a small amount of practice is given.

SUBJECTS: 170 college students.

PROCEDURE: The primary task required pressing one of five keys in response to stimuli which consisted of dots of light moving in five channels across a hairline on a plastic screen. For half the *S*s the spatial and temporal sequence of stimuli was repeated after every fifth stimulus. For the remainder of the *S*s both the spatial and temporal sequence of stimuli was random within specified limits. Half of each of these groups received 15 trials on the primary task and half received 3 trials, a trial consisting of 60 dots of light passing the hairline. The two 15-trial groups (one with the redundant pattern and one with the random pattern) and the two 3-trial groups were equated for performance on this task by having a slower average rate of responses for the random task. All groups then received 3 trials during which an extra task, mental arithmetic, was performed simultaneously with the primary task.

RESULTS: The group which received 15 prior trials on the redundant primary task performed significantly better on the extra task than any other group. No difference was found between the redundant and random-pattern groups if only 3 prior trials were given. The results support the hypothesis under test. (Slides)

Norman, Ralph D., & Ainsworth, Patricia. (*University of New Mexico*) **The relationships among projection, empathy, reality, and adjustment, operationally defined.**

PROBLEM: Hypotheses are: (*a*) given operational definitions of projection, empathy, and reality, projection will correlate negatively with reality and empathy

whereas empathy and reality will correlate positively; (*b*) reality and empathy will correlate more closely with adjustment than will projection.

SUBJECTS AND PROCEDURE: The GAMIN was given to 74 male students in two forms. In the first, *S*s took it for themselves; in the second, two weeks later, they were required to answer as they thought most others of their own age and sex would. Only most ego-involved traits (A, I, N) were used. Operationally, projection was defined to occur when *S*, on the first form, denies possession of a trait, but on the second says others possess it when actually others do not as determined from majority results from the first form. Empathy, defined operationally, occurs when *S* states others possess a trait and the majority of others actually do have it when speaking of themselves. Reality, operationally delineated, exists when *S*, on the second form, says others possess a trait and agrees with the majority of others' judgments of others. Adjustment was defined operationally as scores on the traits.

RESULTS: First hypothesis median intratrait correlations: projection and reality, $-.45$; projection and empathy, $-.65$; reality and empathy, .83, all significant. Respective median intertrait *r*'s: $-.16$, $-.29$, and .30, the latter two significant. Respective total score correlations: $-.41$, $-.65$, and .77, all significant. Second hypothesis median intratrait *r*'s: projection and adjustment, .13; reality and adjustment, .21; and empathy and adjustment, .38, the latter significant. Median intertrait *r*'s were respectively .05, .25, and .32, the latter two significant. Respective total score correlations: .18, .46, and .56, the latter two significant.

CONCLUSIONS: Hypotheses were upheld, supporting personality theory. A point is raised whether low *r* between projection and adjustment is an artifact or not. (Slides)

Olsen, Marjorie A. (*Educational Testing Service*) **The predictive effectiveness of the College Entrance Examination Board English Composition Test.**

The predictive effectiveness of the March 1951 CEEB English Composition Test was investigated in a series of studies at eight College Board member colleges. In these studies, particular attention was given to a comparison of the subtests included in this form of the English test: Interlinear and Editing. The interlinear subtest is a passage containing a number of unidentified errors and awkward constructions; the examinee makes alterations directly on the test. The editing subtest is of the multiple-choice type, involving corrections of indicated portions of a passage.

Parallel analyses were undertaken for 12 freshman groups in the eight colleges; these groups included more than 2,400 students. First-term English grade was used as the criterion. The predictors were subtest and total scores on the English test and Verbal score on the CEEB Scholastic Aptitude Test. All students had taken these tests before entrance to college.

The average uncorrected validity coefficients were .33 for the editing subtest, .39 for the interlinear subtest, .41 for the total English test, and .42 for SAT Verbal. When results for each group were corrected for restriction of range, the average coefficients were .45, .50, .52, and .53 respectively; these coefficients are estimates of the validity of the tests for a typical group of CEEB examinees. The close similarity of average coefficients for SAT Verbal and the March 1951 English test is worthy of note, since SAT Verbal has typically shown a more substantial advantage over the English test in a large number of studies from 1926 to the present. The content of both tests has, of course, changed during that period.

Olson, Howard C. *see* Willard, Norman, Jr.

Osborne, R. Travis, & Sanders, Wilma B. (*University of Georgia*) **Differential decline in Graduate Record Examination scores with age.**

PROBLEM: To investigate the effect of age increment on the various profile test scores of the Graduate Record Examination.

SUBJECTS: The 1,807 University of Georgia graduate students who were in attendance between February, 1946, and February, 1952, were the *S*s of study. These students were pursuing advanced degrees in one of the seven professional schools or one of the five divisions of the College of Arts and Sciences. There were 634 women and 1,173 men with an age range from 19 to 65.

PROCEDURE: GRE scores and personal data were secured from the files of the Dean of the Graduate School and other official university records. Machine methods were employed for processing the data and conventional statistical procedures were used for computing confidence levels of mean differences of all seven profile test scores for each successive four-year age increment. Slides showing curves of the differential decline in mean profile scores with age were prepared.

RESULTS AND CONCLUSIONS: Profile test scores covering the fields of biology, physics, chemistry, and mathematics fall off significantly with successive age increments, yielding smoothed curves strikingly similar to the well-known curve of mental growth and decline. All significant mean differences favor the

younger students. Scores in social science, literature, and fine arts, however, hold up well with age, and in some cases the older students were found to be significantly superior to their younger classmates. The age-score curves for these three tests are approximated by straight lines.

The findings lend further research support to claims of differential decline of test scores with age. (Slides)

Otis, Leon S. *see* Hunt, Howard F.

Owens, W. A. (*Iowa State College*) **Differential effects of age upon intellectual functions differing in degree of genetic conditioning.**

PROBLEM: To determine whether several intellectual functions, classified by degree of parent-child resemblance, are differentially effected by a 30-year age increment.

METHOD: The present study represents one aspect of a larger longitudinal investigation into the effects of age upon mental abilities. In connection with the latter, 127 males who had taken Army Alpha, form 6, as freshman at Iowa State College during early 1919 were retested during 1950. Test and retest scores were recorded as normalized standard scores from norm distributions composed of 1,000 comparable cases. It was, thus, possible to observe the differential effects of the specified 30 (plus)-year age increment upon the eight subtest functions of Alpha.

The present study involved the testing, with this same examination, of 85 present students whose parents had taken it 25 to 30 years before as entering freshmen. Parent-child correlations were run, by functions, and the subtests were simply assigned to one of two categories in accordance with whether or not the obtained r's were significant. Finally, a t test was made to determine whether or not the classification had been effective in so far as the magnitudes of age increments or decrements over the 30-year period were concerned.

RESULTS: Results obtained indicate that magnitude of age increment varied inversely with magnitude of parent-child correlation. Several interpretations are suggested.

CONCLUSION: Age does have a differential effect upon functions varying in degree of genetic conditioning.

Page, Horace A., & Markowitz, Gloria. (*University of Wisconsin*) **The relationship of defensiveness to rating-scale bias.** (Sponsor, Horace A. Page)

PROBLEM: The prediction, on the basis of defensiveness, of differential reactions to success and failure experiences. Defensiveness was defined in terms of the rejection of generally applicable, but negative self-statements and the dependent variable involved the nature of responses to a graphic rating scale dealing with the success or failure experience.

SUBJECTS: 20 defensive and 20 nondefensive male and female college students. Each group was selected from extreme thirds of a combined distribution of the L and K scales from the MMPI and 20 original items.

PROCEDURE: Difficult arithmetic, syllogistic, and vocabulary items were administered and Ss were informed that they were participating in the final preparation of a college level intellectual measure. An interview followed in which 10 defensive and 10 nondefensive Ss were informed that their performance rated in the top 14% of a college distribution, while scores in the lower 14% were reported to the remaining Ss. In the interview, educational history and reactions to the test were discussed. A rating scale was then administered which involved a critical evaluation of the test and test situation (Part I) and of the interviewer's adequacy (Part II).

RESULTS: Differences significant beyond the .01 and .05 levels were obtained between the means of success and failure defensive groups on Part II and the Total Rating Scale, respectively. Differences on Part I were in a similar direction but were not significant. No significant differences were found between the nondefensive groups.

CONCLUSIONS: Following a success or failure experience, greater rating bias is displayed by defensive than by nondefensive persons. It is suggested that defensively oriented individuals tend to enhance a situation which supports a positive self-percept and to refute a situation which implies a negative self-percept.

Palubinskas, Alice L. (*Tufts College*) **A four-year study of selected socioeducational variables and the Minnesota Personality Scale.**

PROBLEM: Are there significant differences in the Minnesota Personality Scale scores of groups of college women classified according to the following criteria: academic achievement, dormitory or sorority residence, choice of curriculum, size of home town, number of visits to the college infirmary?

SUBJECTS: 91 women students at a Midwestern college.

PROCEDURE: The Minnesota Personality Scale was administered to 91 women during their freshman year at college and again four years later. The freshman scores and the senior scores, as well as the differences between the two testings, were used. The five subscales of the Minnesota Personality Scale are: Morale, Social Adjustment, Family Relations, Emotionality, and Economic Conservatism. The Personality Scale scores were related to academic achievement by the techniques of analysis of regression and the discriminant function. High school grade-point average and ACE scores were used as controls. Analyses of vari-

ance and covariance were applied to the criteria of dormitory or sorority residence, choice of curriculum, size of home town, and number of visits to the college infirmary.

RESULTS: None of the Personality Scale scores added significantly to the prediction of academic achievement. The *S*s who were sorority members and *S*s who came from the larger home towns were found to be significantly higher in Social Adjustment and to have scores indicative of better adjustment in Emotionality. While the entire group showed improvement in these scores during the four-year period, *S*s from the sororities and the larger home towns showed significantly more improvement. The only group to show improvement in Family Relations score were the *S*s who were enrolled in curricula of a social studies nature rather than of a technical nature. The *S*s who visited the college infirmary as patients an unusually large number of times were significantly poorer in Social Adjustment.

CONCLUSIONS: Academic achievement is not related to the scores on the Minnesota Personality Scale. However, significant relationships with variables of a social nature were found. In all cases these relationships were found to be in the direction which personality theory would indicate. (Slides)

Panakal, Joseph J. *see* Wickens, Delos D.

Parker, Judith T. *see* Bond, Hudson J.

Parrish, J. A., Heyman, M. N., & Tye, V. M. (*Personnel Research Branch, TAGO*) **Validity generalization in the prediction of leadership by self-description techniques.**

PROBLEM: To determine the extent to which item content of experimental self-description blanks and scoring keys based on previous leadership studies can be generalized to prediction of performance of Army officer candidates.

SUBJECTS: 3,000 students in eight Army officer candidate schools.

PROCEDURE: A select group of self-description items was identified by review of item validity indices available from 16 prior studies. Two experimental instruments were developed and keyed from this pool of items. OCB-4 included the most valid items and emphasized forced-choice content. Both OCB-4 and OCB-5 contained background and yes-no items.

Both OCB-4 and OCB-5 were administered to students at two officer candidate schools, three additional schools were tested with OCB-4, and the remaining three schools with OCB-5. Criteria consisted of leadership rankings by tactical officers and fellow candidates, collected during the sixth or eighth week of the course. The keys based on the previous studies were validated against a composite of the leadership rankings to find to what extent validity would be generalized to the OCS population.

RESULTS: For OCB-4 the validity generalization key gave a validity of .29 ($N = 1{,}307$) with coefficients for individual schools ranging from .22 to .40. The validity generalization key for OCB-5 yielded a validity of .20 ($N = 601$) with individual school coefficients ranging from .04 to .35.

CONCLUSIONS: The generalized key for OCB-4 maintained useful validity when applied to an OCS leadership situation. The key applied to OCB-5 gave less definitive evidence for validity generalization.

Research plans are discussed for investigating the degree to which keys developed to predict success in one of the officer candidate schools will generalize to others.

Pattie, Frank A. (*University of Kentucky*) **The effect of hypnotically induced hostility on Rorschach responses.**

SUBJECTS: 14 undergraduates.

PROCEDURE: *S*s were hypnotized and told that they would be given the Rorschach posthypnotically and that they would be "in a calm, normal frame of mind" while taking the test and that they would forget their responses after completing it. On a second occasion the procedure was repeated except for the suggestion that during the test they would feel "very angry, hostile, and aggressive" toward *E*. The last seven *S*s were asked at the end of the first test what effects anger toward *E* would have on the Rorschach responses.

RESULTS: *S*s fell into three groups: (*a*) eight who showed in hostility more than a twofold increase in percentage of hostile content (weapons, fierce animals, etc.), (*b*) two who were angrily uncooperative and rejected some cards, and (*c*) four who showed neither of these effects. The seven *S*s whose opinions were asked reacted in accordance with these opinions, four increasing hostile content, one being uncooperative, and two showing no definite effect. The total number of responses decreased in hostility. The results do not support the hypothesis that white-space and color responses are indicators of outwardly directed hostility, since these responses decreased, both absolutely and relatively, in hostility. The percentage of responses common to the two Rorschach records obtained from each *S* averaged 34 and ranged from 5 to 82.

Patton, R. A. *see* Braun, Harry W., and Hamilton, Charles L.

Payne, M. Carr, Jr. (*University of Illinois*) **Constant errors in interpolation between scale marks.**

PROBLEM: To determine the change in the pattern of constant errors of interpolation as a function of scale interval size.

SUBJECTS: 10 male students.

MATERIALS: 35-mm. slides, which pictured four vertical scale marks equal distances apart with an index above and between the center two. Index positions were at fiftieths of the center interval. Interval sizes in different sets of slides were .34, .08, and .02 in.

PROCEDURE: Scale readings were made to tenths of the interpolation interval. Experimental sessions for each *S* extended over three days. Each day, *S* read the .34-in. and .08-in. sets twice each, and the .02-in. set eight times. This balance of readings insured similar reliability of the subject's constant errors at all scale sizes.

RESULTS: Constant errors were analyzed as a function of true scale position of the pointer. There were individual differences in the size of the constant errors and in the amount of the observed change in error patterns with changing interval size. When the size of the scale interval was decreased, the most common constant error pattern changed from (*a*) rounding away from the interval endpoints and midpoint, especially the endpoints, to (*b*) rounding away from the interval endpoints and midpoint, especially the midpoint, to (*c*) "no clear pattern."

The results bear on the presumed role of "number preferences" in interpolation.

This study extends preliminary results on the same problem, which were presented at this year's meeting of the Midwestern Psychological Association.

Pearl, David *see* Jacobs, Durand F.

Pearl, David, & Jacobs, Durand F. (*VA Hospital, Battle Creek, Michigan*) **Sociometric choice and the Szondi Test.**

PROBLEM: Can the Szondi Test differentiate between *S*s who have similar and opposed affective evaluations of individuals with whom they are in daily contact? One might assume that *S*s with similar sociometric patterns of likes and dislikes for people would have greater agreement among themselves in their Szondi choices than would those with dissimilar or contradictory choice patterns.

SUBJECTS: 39 adult male patients on a privilege ward at a neuropsychiatric hospital.

PROCEDURE: Each *S* rated 38 photos of his wardmates on a continuum of like and dislike according to *Q* technique and then was administered the Szondi Test. The *S*'s sociometric ratings were then intercorrelated. The 40 pairs of *S*s with the highest positive significant correlations were compared in their Szondi choices with the 40 pairs of *S*s with the greatest negative sociometric correlations. Analysis of all *S*s' sociometric intercorrelations revealed four clusters of *S*s, those within a cluster having significantly similar sociometric patterns. Similarities of Szondi choices were compared for the members of each group and these contrasted with a control group of *S*s chosen from those not falling in any of these clusters.

RESULTS: Subject pairs with significantly correlated sociometric patterns when compared to negatively correlated pairs had a greater number of Szondi choice agreements ($p = .05$), greater number of agreements with respect to disliked photos ($p = .01$), and a smaller number of disagreements among themselves ($p = .05$). Similar significant differences were found to obtain in comparisons of sociometric cluster *S*s and control *S*s.

CONCLUSIONS: The *S*s with similar interpersonal choice patterns react to the Szondi Test picture selection in a significantly more similar fashion than do *S*s with dissimilar or contradictory sociometric choices. The implications of these findings are discussed.

Pelz, Donald C. (*University of Michigan*) **A new chi-square technique for testing second-order relationships.**

A "second-order relationship" is observed when a relationship between two variables (X and Y) is seen to change as some third variable (W) changes. The phenomenon is already familiar as an interaction effect in analysis of variance. Second-order relationships emerge only when we obtain cross-tabulations involving three or more variables at a time. The effects are lost, and cannot be recovered, through procedures based on a correlation matrix (obtained two variables at a time), such as partial and multiple correlation, and factor analysis.

A promising new chi-square method has been proposed by J. E. Keith Smith for testing the significance of second-order effects. It depends on the computation of a likelihood ratio, the natural log of which multiplied by -2 is approximately distributed as chi square. The new method can test the second-order relationship among variables with any number of categories; it represents an advance over a method described by Snedecor for testing second-order interaction in a $2 \times 2 \times 2$ table.

Furthermore, a chi square can be obtained for the *total* interaction in a two-variable table. This quantity proves to be the exact sum of the three first-order interactions plus the second-order. The total interaction among any number of variables can likewise be broken exactly into additive components. This process, doing with frequencies what analysis of variance does with magnitudes, we may call the "analysis of chi square." Unlike variance analysis, it is not hampered by lack of orthogonality (proportionality in the cell frequencies) and does not assume normality or homogeneity of variance. It therefore seems well suited to "natural" data collected from existing populations.

Persky, Harold. (*Institute for Psychosomatic and Psychiatric Research and Training, Michael Reese Hospital*) **Response to a life stress: an evaluation of some biochemical indices.** (Sponsor, Sheldon J. Korchin)

Hippuric acid synthesis, blood glutathione concentration, and blood eosinophil content have been shown to reflect biological changes associated with a variety of physiological or psychological stresses. In the course of a multidisciplinary study of healthy soldiers undergoing airborne training (parachute jumping), it was possible to measure each of these indices on given occasions for the group. Occasions judged particularly stressful by psychological observers were selected as the critical points for the chemical measurements. The degree of response, time required for response, and variability of the response were the three criteria employed for assessment of the indices.

Hippuric acid synthesis varied slightly as a function of phase of training. Thus, the mean values differed but little between the more and less stressful occasions. Individual *S*s tended to maintain a constant position within the group on all occasions. Nevertheless, specific individuals on certain occasions deviated markedly from the group.

By contrast, eosinophil and glutathione levels of the blood changed significantly and rapidly in response to each specific stress situation. Eosinophil level dropped 40% four hours after tower or plane jumps. Moreover, subject variability was greater for eosinophil response than for hippuric acid synthesis. Blood glutathione fell 20% ten hours after the imposition of the stress. For this index, each individual tended to manifest greater constancy of response relative to the group than was the case for eosinophils.

Studies of other stress situations tend to confirm the finding that glutathione and eosinophil levels of blood reflect biological changes prior to and different from those which evoke changes in hippuric acid synthesis. These findings, employing a sequential organization of physiological responses, are considered in the light of a general theory of stress. (Slides)

Peryam, David R., & Haynes, John G. (*Quartermaster Food and Container Institute, Chicago, Illinois*) **Validity of prediction of soldiers' food preferences by laboratory methods.** (Sponsor, David R. Peryam)

PROBLEM: To determine whether the food preferences of civilians, as measured in the laboratory by a rating scale of hedonic values, validly predicts soldiers' food preferences.

SUBJECTS: 300 civilian office employees at the Chicago Quartermaster Depot and 1,200 enlisted men at Fort Lee, Virginia.

PROCEDURE: A testing procedure regularly used by the food acceptance laboratory of the QM Food and Container Institute to evaluate ration foods was followed. The rating scale has nine successive intervals described in phrases indicating degree of "dislike" and "like" and the instructions are designed to encourage a nonjudgmental response. Twelve test foods were selected so that their mean scale values would be widely distributed. They were tested in the laboratory by the normal procedure. Three foods were served to 40 *S*s in each test session, four sessions being required to complete one series on the 12 foods. A second series was run using different food combinations. Concurrently tests were run in a dining hall at Fort Lee following the laboratory procedure as closely as conditions would permit. Fifty enlisted men, selected each time from a different company, participated in each session. In addition to the two series of tests run in the laboratory, two other series involving different food combinations were run.

RESULTS: The correlation between Fort Lee and laboratory grand mean ratings for the 12 foods was + .92. The test-retest reliability for the laboratory was + .84 and for Fort Lee was + .96. The laboratory ratings tended to be higher and showed less variation than the soldiers' ratings.

These results indicate that using laboratory tests to predict soldier food preferences is not invalidated by the differences between the civilian and military populations. (Slides)

Pfaffmann, C., & Brown, E. M. (*Brown University*) **The preference for saccharin.** (Sponsor, C. Pfaffmann)

The synthetic sweetening agent saccharin has been utilized in preference studies and learning experiments with rats because of its presumed physiological inertness. However, saccharin is most commonly available as the sodium salt (soluble saccharin). The taste receptors of the rat are known to be very sensitive to sodium and the intact animal displays a marked preference for sodium salts of several kinds. The possibility therefore exists that the preference for soluble saccharin is actually a preference for sodium. This can be checked by using another form, so-called insoluble saccharin, which contains no sodium, but is sufficiently soluble to make intensely sweet solutions. In this experiment the preference for these two forms of saccharin was studied.

Ten male albino rats were presented with a choice of water and saccharin in a two-bottle situation. Five animals received the sodium salt, five received the insoluble form, each in an increasing series of equimolar concentrations.

The two forms of saccharin were equally preferred in solutions of equal molar concentration. It is con-

cluded that the preference for soluble saccharin in the rat is due to the saccharin itself and not the sodium. (Slides)

Pierce, Frank *see* Hamilton, Charles L.

Pierrel, Rosemary. (*Brown University*) **Taste effects resulting from intermittent electrical stimulation of the tongue.**

PROBLEM: The use of intermittent electrical stimulation on the tongue makes it possible to examine relationships between frequency and intensity of stimulation and the so-called "critical fusion frequency" of taste.

SUBJECTS: 3 adult humans.

METHOD: Experiments were conducted in which the tongue was stimulated by square wave currents at frequencies between 20 and 1,000 cps. Two types of limen to anodal stimulation were found employing the method of limits. Thresholds from two different areas on the tongue and from the tongue and lip were obtained.

RESULTS: As the stimulus intensity is increased on the tongue *S* first detects stimulation as a sour or metallic steady taste. This threshold is termed the electric taste limen. With further increases in intensity a point is reached at which intermittence abruptly appears. This is called the critical fusion or intermittence threshold. When taste and intermittence thresholds are expressed as a function of frequency in two out of three *S*s the taste and intermittence threshold curves are significantly different in form. The form of the intermittence curves for two different regions of the tongue is similar for all subjects. No electric taste could be elicited from the lip. Intermittence thresholds, however, could be determined. The form of the intermittence curves for tongue and lip is similar. In all experiments the threshold tends to increase with frequency. From these data it may be concluded that similar intermittence threshold curves can be obtained from regions with and without taste receptors. The use of the so-called critical fusion frequency of taste as an indicator of receptor mechanisms of taste should be re-evaluated.

This research was conducted under Contract N7 onr-35804 between the Office of Naval Research and Brown University. (Slides)

Pilgrim, Francis J. *see* Schutz, Howard G.

Podell, J. E. *see* Rose, N.

Pollack, Irwin. (*Human Factors Operations Research Laboratories*) **Visual noise filtering by human operators.**

PROBLEM: One of the most important functions of human operators in communications systems is that of separating relevant from irrelevant information. This operation has been termed "filtering." This study attempts to study the role of several variables in a visual filtering task.

SUBJECTS: 100 college students.

PROCEDURE: The *S*s were presented a composite of "signal" and "noise." The signals consisted of an orderly sequence of dots representing discrete approximations to continuous "flight paths"; the noise consisted of random displacements of the signal dots. The experimental task was to separate the signal from the noise component.

Two series of tests were carried out: a "reproduction" series in which *S* reproduced his best estimate of the signal; and a "recognition" series in which the *S* selected one signal from a defined set of possible signals. The variables investigated were: the "noise fraction"—the proportion of the signal subjected to noise; the "noise level"—the range of possible variation produced by the noise; and the inspection time of the composite signal. Filtering performance was studied with respect to the "prediction" of the future course of the signal, and the "evaluation" of the past history of the path.

RESULTS AND CONCLUSIONS: (*a*) In general, filtering performance deteriorates as the "noise fraction" is increased. Under selected conditions, however, sharp changes in performance are obtained at critical ranges of noise fractions. The region of sharp changes in performance is a function of the difficulty of the filtering task. (*b*) In filtering performance, "evaluation" responses are more accurate than "prediction" responses. (*c*) Filtering performance uniformly deteriorates as the "noise level" is increased. (*d*) In the recognition series, the proportion of the presented information that is lost is approximately independent of the number of permissible signals available to *S*s for selection. (*e*) Filtering performance deteriorates as the time available for inspection of the composite signal is decreased. (Slides)

Pope, Benjamin. (*Spring Grove State Hospital, Catonsville, Maryland*) **Sociometric structure and group values on a mental hospital service for criminally insane.**

The purpose of this study is to determine whether the patients on a mental hospital unit for the criminally insane structure themselves into spontaneous subgroups and what the prestige values of these subgroups are. A sociometric interview was carried out with 58 *S*s, using as a criterion association with other patients on the unit's sunporch. The data were plotted on a sociomatrix and subgroups separated out by an adaptation of Holzinger's B coefficient. Each choice and rejection was accompanied by a reason in the patient's own words. These reasons were used as the

basic data for determining the prestige value hierarchy of this culture. The results follow:

1. As in normal groups, here too there is a greater tendency to accept than reject each other. Only a few patients obtain eminence or decided rejection, while most cluster around the mean.

2. Eleven subgroups clearly emerge, with seven residual patients and eight isolates. These subgroups are not homogeneous in terms of sociometric score, frequently including individuals with sharply contrasting group status.

3. Most of the prestige values in this group might well be found in normal societies. These include conversational ability, affability, friendliness, and the capacity to participate in organized recreation and joint work. Two of the values bearing special reference to the present group are the satisfaction gained by some of the better integrated patients in protecting the dependent psychotic members, and the general recognition accorded to these better integrated patients.

4. The reasons for social rejection include aggressively domineering behavior, psychotic aggressiveness with unpredictable hostile attacks, and homosexuality.

5. Seven of the better integrated patients constitute the key group in this culture, functioning as the arbiter of values. (Slides)

Pribram, Karl H. *see* Mishkin, Mortimer

Primoff, Ernest S. (*Test Development Section, U. S. Civil Service Commission*) **The J-coefficient—a measure of intrinsic validity in aptitude tests.**

The J-coefficient reveals the intrinsic validity of a test for a job in the trades and industrial field. It shows the relation between the coverage of a test and requirements of a job. It is calculated from two matrices, one for job requirements and one for tests. The job matrix values are obtained from a study of job requirements that takes about an hour's time of one test analyst and about six supervisors or expert workers who know the job requirements. It is called a J-coefficient because it is based on job requirements.

The derivation of the J-coefficient will be sketched briefly. It will be noted that the Pearsonian validity coefficient of a test is a function of the J-coefficient. The J-coefficient has stood up in comparison with actual validity coefficients as well as in reliability studies. When experimental conditions such as N, criteria, and selection are poor, the J-coefficient as a validated methodology is superior to a questionable validity coefficient, both in cost and usefulness. Validity studies are conducted only where good experimental conditions exist, and are truly experimental, not merely data-gathering. In this way, statistics are used properly, to check upon a hypothesis. The J-coefficient is a rational approach, and thus validation studies suggest continuous improvement, whereas when traditional validity coefficients supply numbers which vary from study to study, there is no way to resolve differences. A multiple J-coefficient reveals how well a battery based on available tests will work. If this is too low, job requirements can be reviewed to see what kind of additional test should be constructed. At present, test matrices are available only for Civil Service tests. This may be the only report on the J-coefficient to an open group for some time.

Racusen, Frances Rhea. (*VA Hospital, Downey, Illinois*) **An exploratory investigation of the creativity and productivity variables on the Rorschach and Thematic Apperception Tests.**

The purpose of the present study was threefold: (*a*) to investigate clinical assertions regarding the presence of a relationship between measures of creativity and productivity on the Rorschach and Thematic Apperception Tests; (*b*) to explore the relationship between these measures and those of intelligence and verbal fluency; and (*c*) to examine diagnostic group differences on creativity and productivity variables.

Ninety *S*s (50 normals, 20 schizophrenic and 20 neurotic hospitalized patients) were used. Each *S* was given the Rorschach, TAT, and CVS Abbreviated Intelligence Scale. Forty of the *S*s were also given two verbal fluency tests, Similes and Sentence Fluency. A Rorschach Creativity Index and TAT Theme Complexity Scales were constructed for purposes of analysis of the data in the study.

For the total sample of 90 *S*s, there were significant relationships between Rorschach and TAT measures of creativity and productivity at the 5% level of confidence. When the effect of intelligence was held constant, the relationship between the two productivity measures was not markedly reduced, but that between the two creativity measures was decreased to a non-significant level. No significant relationship was found between verbal fluency and any other variables. The neurotic group had the lowest creativity and productivity scores on the Rorschach and TAT. The schizophrenic group produced the greatest number of responses on the Rorschach, while the normals were most productive on the TAT.

It was concluded that: (*a*) assertions about creativity and productivity relationships between projective tests do not appear to be highly valid; (*b*) intelligence bears a significant relationship only to creativity measures; (*c*) findings cast doubt on a common trait of productivity; and (*d*) diagnostic group differences appeared on measures of creativity and productivity.

Ramond, Charles K. (*State University of Iowa*) **Performance in instrumental learning as a joint function of drive and delay of reinforcement.** (Sponsor, W. R. McAllister)

The purpose of the present study was to investigate the method of interaction of two experimental variables: delay of reinforcement (Tg) and drive strength (D), where the latter was defined in terms of number of hours of food deprivation.

Forty male hooded rats were administered 104 reinforced trials in a simple instrumental learning situation. Four groups each received one of two levels of each experimental variable: either 22-hr. or 4-hr. drive, and either 1-sec. or 5-sec. delay of reinforcement. The response measured was speed (reciprocal of latency) traversing a small response chamber to touch a bar.

A mean speed during the last 32 trials was calculated for each *S*, and an analysis of variance made of these values. The short-delay groups ran faster ($p = .02$) than the long-delay groups, and the high-drive groups faster ($p = .08$) than the low-drive groups. No significant interaction was found between the effects of drive and delay of reinforcement.

This last result was interpreted as questioning Hull's assumption that D and Tg combine multiplicatively, and as favoring Spence's suggestion that the relationship between these factors is additive. (Slides)

Raven, Bertram H. (*University of Michigan*) **Group pressures toward selection and distortion of content in communication and cognition.**

PROBLEM: It was hypothesized that (*a*) deviates from a normative opinion tend to change toward the norm even in the absence of direct influence attempts and even when their opinion will remain private. (*b*) Content bearing on the object of opinion is selectively perceived and distorted to support the norm. (*c*) The perceived content is further distorted in communication to the group. (*d*) These manifestations of pressure toward uniformity increase when there is possibility of rejection for deviance.

SUBJECTS: 33 groups with 10 to 14 undergraduates in each.

PROCEDURE: The *S*s read a case of a juvenile delinquent and each took a position along an opinion continuum of personal-environment responsibility. Most *S*s took an environmental position and a false consensus indicated that they were deviates from a modal personal-responsibility opinion. The *S*s then wrote individual descriptions of the case study. Half the groups were told that their descriptions would be communicated to everyone in the group; half were told that the descriptions would remain private (measuring cognitive change). Half the groups in each of these treatments were told that deviates could be rejected from the group. Private indications of opinion change were collected. Content analysis indicated amount of norm-directed distortion.

RESULTS AND CONCLUSIONS: As predicted, deviates changed their opinions toward the norm more than conformers. When the descriptions were to be made public, deviates changed even more toward the norm. Possibility of rejection also increased change. Content-related hypotheses were not supported among deviates who were strongly involved in their own opinion, but received substantial support from deviates who were more involved in the group opinion. These latter were more likely to distort content so as to support the norm if there was possibility of rejection. This was especially true where all descriptions were to be made public.

Ray, William S. *see* Andrews, T. G.

Redlich, Frederick C. *see* Laffal, Julius

Reid, L. Starling *see* Henneman, Richard H.

Reidy, Mary E. *see* Lorr, Maurice

Reitan, Ralph M. (*School of Medicine, Indiana University*) **Psychological factors in essential hypertension as indicated by the Rorschach test.**

PROBLEM: What are the similarities and differences in psychological functions of persons with essential hypertension, neurosis, and organic brain damage?

POPULATION: 13 *S*s composed each of three diagnostic groups: essential hypertension, neurosis, and organic brain damage. The *S*s were individually matched on the basis of color, sex, age, formal education, and intelligence quotient. The hypertensive *S*s had previously been studied and reported upon by Apter, Halstead, and Heimburger (*Amer. J. Psychiat.*, 1951, **107**, 808, and *Trans. Amer. neurol. Ass.*, 1949, **219**), but without consideration of the Rorschach test results.

PROCEDURE: Apter, Halstead, and Heimburger had reported definite changes in some of the hypertensive *S*s consisting of mild judgmental and memory defects, loss of energy and anxiety symptoms, and a tendency to suppress feelings of rage and anger. Also, the Halstead Impairment Index revealed rather consistent impairment of biological intelligence. Therefore, it seemed of interest to compare the Rorschach results on the hypertensive patients with those of the two other groups. The Rorschach test was individually administered and scored (Beck's method) before analysis of the results was begun.

RESULTS: The mean scores on the Rorschach test variables regularly fell in order from highest to lowest:

neurosis, hypertension, and brain damage. In comparing the neurosis and hypertension groups, not a single reversal occurs among the 21 variables measured. In hypertension vs. organic brain damage, only three reversals occur. The frequency of occurrence of Rorschach test signs of brain damage fall in the same relative order in the intergroup comparisons.

CONCLUSIONS: Apter, Halstead, and Heimburger's findings of impairment in the integrative abilities of personality with the onset of organic brain involvement in essential hypertension appear to be measurable with the Rorschach test. (Slides)

Reuder, Mary E. *(Personnel Research Branch, TAGO)* **The relationship between instructions and problem difficulty on muscular tension levels during problem solution.**

PROBLEM: To study the effects of ego orientation and task orientation on muscle potential levels during solution of mathematical problems of two difficulty levels.

SUBJECTS: 40 male college students having Mathematics Student Achievement Test scores within one standard deviation of the mean of the normative distribution.

PROCEDURE: A two-by-two factorial design was employed. The *S*s were given either five easy or five difficult problems in number progressions under either task- or ego-orienting instructions. Muscle action potentials (MAP) were amplified on a cathode ray oscilloscope and photographically recorded during initial (criterion, 10 μv or less) rest, instructions, problem solution (work) and between-problem rest. Covariance of work levels with initial rest was removed for each cell separately by applying the appropriate beta coefficients. A cube root transformation was then applied to the adjusted scores to correct for heterogeneity of remainder variance. An analysis of variance was then performed.

RESULTS AND CONCLUSIONS: During the instruction period, no significant change in MAP over initial resting level was found. During the work period there was an over-all increase (significant at the .01 level) of muscular tension over MAP during initial rest. For the adjusted transformed scores of the work period, an interaction between instructions and problem difficulty (significant at the .001 level) was found. Ego-orienting instructions produced less tension on a very difficult task than they did when the task was moderately easy. The reverse was true of task-orienting instructions. Differences in difficulty of the problems used produced MAP changes during work which were significant beyond the .01 level.

CONCLUSION: Tension increase during problem solution was a function of both the type of instructions and the difficulty level of the problems used.

Ricciuti, Florence B. *(Psychological Clinic, Rutgers University)* **A study of experimentally induced frustration in boys from contrasting school atmospheres.**

PROBLEM: The purpose of this study was to investigate the relationship between children's overt behavior in an experimental frustration situation and the degree of permissiveness of the school atmosphere to which they had been exposed.

SUBJECTS: 96 fourth- and fifth-grade boys drawn equally from two contrasting schools: one characterized by an atmosphere of permissiveness and flexibility, the other by a more rigid and conformity-demanding atmosphere. Groups were matched on home atmosphere.

PROCEDURE: Each S was given two series of puzzle type tasks, both consisted of five problems of increasing difficulty. The *S*s were allowed to complete the first two problems in each series (nonfrustration tasks), but were unable to complete the last three problems (frustration tasks).

During the testing period overt behavior was observed and classified in two ways: (*a*) according to type of reaction: aggressive, regressive, withdrawal, and (*b*) according to mode of expression: motor, verbal, or autonomic.

RESULTS: 1. Children from both schools exhibited a significantly greater number of observable responses to the frustration problems than to the nonfrustration problems.

2. The *S*s from the permissive school gave a significantly higher proportion of aggressive type reaction than *S*s from the rigid school. At the same time a greater proportion of their responses were of a motor and verbal type of expression.

3. The rigid school *S*s gave a significantly higher percentage of regressive and autonomic responses than those in the permissive school.

CONCLUSIONS: Behavior exhibited by children in an experimental frustration situation was found to be related to differences in school atmosphere. It appears that children who are given more freedom in school tend to give more outgoing action type responses while those who are subject to stricter control tend to give more passive (autonomic) responses which would not conflict with authority.

Ricciuti, Henry N. *(Educational Testing Service)* **The development of a behavioral measure of the tendency to overstate one's knowledge.**

PROBLEM: To develop a behavioral measure of the tendency of individuals to overstate their knowledge in an ego-involving situation, and to investigate the psychological significance of this tendency.

SUBJECTS: Two classes (approximately 200 each) of entering freshmen at the U.S. Coast Guard Academy.

PROCEDURE: An "information checklist" was developed consisting of 150 short factual items of information concerning geographical locations, names of people, books, events, etc. These items were so selected that about two-thirds of them were extremely obscure, while the rest were very well known. During a period of institutional testing, the *S*s in one class were asked to check those items which they knew something about, or were familiar with. Each *S* was then given an "overstatement" score based upon the number of obscure factual items which he had checked as being familiar to him. Empirical evidence of the actual obscurity of these items had been obtained from the other comparable freshman class. Correlations between the overstatement scores thus obtained and a number of other variables were then determined.

RESULTS: The number of obscure items checked was found to be unrelated to verbal and quantitative ability, and to freshman grade point average. However, the overstatement score was significantly related to leadership ratings on a sea cruise, as well as to questionnaire measures of dominance, social participation, and status. Significant positive relationships were also obtained with number of erroneous solutions offered to difficult problems in a persistence test, and with the Mania scale of the MMPI. The overstatement score was not related to the MMPI "Lie" scale, nor to increase in "Lie" score under instructions to produce a "good" score.

CONCLUSIONS: The results appear to indicate that the behavioral "overstatement" measure developed represents, to some extent, overtly expressed self-confidence. Theoretical implications and the potential value of such a measure as an indicator of more general ego-defensive behavior are discussed.

Richards, T. W. (*Louisiana State University*) **Personality development as reflected in Rorschach behavior: a case study.**

This study makes a somewhat detailed examination of the Rorschach performances of a boy in the Fels Study as they reflect his sensitivity to other persons, particularly his parents, and his personal method of dealing with the interpersonal problem as he developed from five years to sixteen years. Material regarding the boy's home life, his health, and his social development is presented in a way conducive to the examination of longitudinal correlation.

Richman, Joseph. (*Kings County Hospital, Brooklyn, and Teachers College, Columbia University*) **The effect of the emotional tone of words upon the vocabulary responses of schizophrenics.**

PROBLEM: To examine some hypotheses concerning schizophrenic thinking, and to see how these hypotheses stood up when the variables of affective tone of vocabulary words and clinically observed deterioration in patients were studied. It was predicted that the definitions to emotional words would be more concrete, less communicable, more disorganized, and more autistic and idiosyncratic.

SUBJECTS: 102 hospitalized male veteran patients, diagnosed as schizophrenic, and rated as to degree of deterioration.

The procedure was based upon an extension of Feifel's method. A vocabulary test consisting of 20 Stanford-Binet words and 20 emotionally toned words was administered, and the definitions analyzed into four main classifications: (*a*) conceptual level, or Feifel's categories, (*b*) degree of correctness, (*c*) organizational efficiency, based upon categories utilized by Cameron, and (*d*) content deviations, the amount of autism and idiosyncracy.

Neutral and emotionally loaded words were compared, and deteriorated and less deteriorated groups.

RESULTS: A reduction in abstract thinking was found to accompany both schizophrenic deterioration and emotionally toned words. The changes were in the direction of looseness, unprecision, and symbolic distortions, and not towards more functional and descriptive definitions. Both emotional loading and deterioration acted to break down communication. In response to emotional tone, autism was found as the distinguishing feature of deterioration, and individualistic but not necessarily bizarre meanings were characteristic of less disturbed patients. The Babcock hypothesis was not supported. The deteriorated patients showed significantly greater changes in response to emotional tone.

CONCLUSIONS: The results were most consistent with theories, such as those of Cameron, which stress disorganization, communication difficulties, the use of private symbols, and the effect of emotional disturbances. The findings did not support the regressive hypotheses of Goldstein and Vigotsky.

Riecken, Henry W. (*Harvard University*) **Popularity and conformity to group norms.**

PURPOSE: To test empirically the proposition of G. C. Homans that: "The higher the rank [popularity] of a person within a group, the more nearly his activities conform to the norms of the group."

SUBJECTS: 18 college-age members of a volunteer work camp in Utah.

PROCEDURE: Group norms were determined by examining the beliefs of the sponsoring religious institution, and by observing camper discussions. Norms were both behavioral and attitudinal. At the beginning and again at the end of the eight-week camp season *S*s filled out four Likert-type attitude scales; at the end they rated each other on 19 qualities (forming 4

scales) related to the presumed group norms, and also rank ordered each other on a "like-best" criterion.

RESULTS: Member rank (popularity) was significantly and positively related to conformity on two out of three behavioral norms but not related to any of the four attitudinal norms. Rank was positively related to change toward conformity in two attitude domains, however. A fourth rating scale (Docility-Resistance to social influence) was not related to popularity, both highly compliant and highly resistant members being unpopular. The former are unpopular with each other, while the latter form a solidary clique. Further analysis of intercorrelations of the rating scales suggests some of the determinants of unpopularity in a group and the possibility that certain group norms may be mutually incompatible, conformity on one norm may necessarily mean a lower rank on another.

CONCLUSIONS: The results point up the difficulties an investigator may have in determining what are the norms of a group. It is concluded that Homans' hypothesis is either incorrect or incomplete, requiring further specification of definitions and measurement operations. The possibility that it is incorrect owing to inherent incompatibility among several norms in any group is discussed in theoretical terms.

Rigby, Marilyn K., Hoffman, E. Lee, Rohrer, John H., & Wilkins, Walter L. (*St. Louis University and Tulane University*) **Three approaches to peer evaluation.**

This work was carried out under contract with the Office of Naval Research.

PROBLEM: To compare three methods of using peer evaluations in an intensive screening program.

SUBJECTS: A complete officer candidate screening course of 145 Marine Corps enlisted men, in nine approximately equal sections.

PROCEDURE: Three kinds of sociometric measures were obtained from the candidates who evaluated other members of their section. Conventional peer rankings were secured at the end of each of three successive weeks of the course, the candidates ranking the other members of their section in order of adjudged potential effectiveness as officers. Mean peer ranks received were arranged into an over-all rank order after adjustments were made for difference in section size. Sociometric questionnaires were also administered at the end of each week for three weeks. The men nominated other members of their section for 17 social and military situations that had been constructed by the line assessment staff. An empirical scoring key developed on previous groups of candidates by O. F. Anderhalter was applied to arrive at a single score for each candidate. The mean scores were then rank ordered over the entire group. The third measure used was the Peer Evaluation Scale, a multiple choice test with items developed from content analyses of earlier candidates' descriptions of outstanding and poor members of their section. Candidates answered the scale for each of the other members of their section, and the scales were scored by an empirical weighting system. Mean scores received by each candidate were rank ordered for comparability with the other data. The three peer evaluation techniques were correlated with each other and with a final rank order representing pooled judgments of the Marine Corps assessment staff.

RESULTS: The measures were found to be highly related both to each other and to the criterion. A discussion of the implications of these findings is presented.

Riss, Walter, & Young, William C. (*University of Kansas*) **Somatic, psychological, and androgenic determinants in the development of sexual behavior in the male guinea pig.** (Sponsor, Walter Riss)

Three experiments were undertaken to clarify the variables which influence sexual behavior.

Eight adult, low-drive males of inbred and heterogeneous stocks were injected daily for 30 days with 20 times the amount of testosterone propionate necessary to maintain the pretreatment drive. During the period of administration of androgen, tests revealed that the animals' performance was not raised above the pretreatment level.

The development of sexual behavior was followed by weekly tests from birth to 120 days. The animals remained isolated throughout except for a lactating female during the first 25 days. A strain inbred since 1906 (brother-sister matings) and a stock of heterogeneous animals were compared. Seven representatives of each stock were left intact, 2 of each stock were castrated at 0–2 days, and 7 of each stock were castrated at 0–2 days and given 25γ/100 gm. body weight testosterone propionate daily from the day after surgery. The intact inbred animals matured more slowly and reached a lower plateau than the intact heterogeneous animals. Administration of androgen did not alter this relationship. In both stocks untreated castrates were inferior to the other groups. The authors suggest that the difference between the inbred animals and the heterogeneous stock is not accounted for by a differential output of androgen but is related to direct or indirect genetic influences. However, a minimum level of androgen is not excluded as a necessary condition for the development of mature sexual behavior.

The sexual performance of 7 low-drive animals over 120 days of age was improved significantly after having constant contact with females for 60 days. It is proposed, therefore, that the develop-

ment of mature sexual behavior is not independent of the frequency and nature of contact with other animals. (Slides)

Robinson, Francis P. *see* Danskin, David G.

Robinson, John E., Jr. (*The Adjutant General's School*) **Student qualifications and performance at The Adjutant General's School, 1 July 1952–30 June 1953.**

PROBLEM: To provide a comprehensive examination of the background, experience, and academic grades of those students beginning and completing military training courses at The Adjutant General's School during fiscal year 1953, and to determine which factors appear to contribute to the success or failure of students in their training.

SUBJECTS: Approximately 5,000 officer, enlisted, and civilian students from among those trained at TAGS during fiscal year 1953 in various Army administrative duties.

PROCEDURE: Personal data concerning students were combined to produce descriptions of various student groups. Final academic grades were used to separate high students (top 27%) and low students (bottom 27%). Discrimination index values (point biserial correlation coefficients) were computed to indicate the manner and degree to which each personal characteristic discriminated between students earning high and low final grades. Tables showing the distribution of final grades were prepared.

RESULTS: The collected personal data resulted in a comprehensive description of the student population. Two facts of general interest that appeared were the high level of background and experience possessed by the students, and the variability of this background and experience.

The relationships between personal characteristics and final grades emphasized the importance of personal motivation in student performance. Only one of the characteristics, the score in Aptitude Area IV, Army Classification Battery, showed useful power to discriminate between enlisted students earning high final grades and low final grades.

The distributions of final grades indicated a spread of values that is consistent with the training mission of the School.

CONCLUSIONS: The findings of this study have bearing on two important areas of military training: the problem of preparing a heterogeneous group of individuals to qualify in specific military occupations, and the importance of personal motivation in achieving success in military training.

Robinson, John S. (*Cornell University*) **Labeling as a factor in visual differentiation and generalization.** (Sponsor, T. A. Ryan)

PROBLEM: This study provided a test of N. E. Miller's formulation of one of the implications of stimulus-response theory concerning response factors in stimulus discrimination. According to this formulation the cue-producing properties of distinctive labeling responses learned to initially confusable stimuli will facilitate later discrimination of the stimuli. Also, if a common label is learned to different stimuli the cues provided by this common response will mediate an increase in the "similarity" of the stimuli, and therefore decrease their discriminability.

SUBJECTS: Graduate and undergraduate students and university administrative personnel.

PROCEDURE: Four groups were used. Three received pretraining: Group I learned distinctive responses to the stimuli (fingerprints); Group II learned one common response to half the stimuli and another response to the other half; Group III compared the successively presented stimuli and responded by saying "same" or "different." These three groups were also given a discrimination task. A fourth group which did not receive pretraining also was given the discrimination task.

RESULTS: The predicted improvement in discrimination following the learning of distinctive responses was obtained. Group II (generalization) *S*s did not show the predicted decrease in discrimination ability. There was a trend ($p = .10$) toward superior performance for those who had received the "generalization" training. The *S*s in Group III showed as much improvement as Group I *S*s.

CONCLUSIONS: The results show some support for Miller's formulation of the role of response factors in stimulus discrimination. Group I shows a change in the predicted direction of improvement in discrimination after learning distinctive names for the stimuli to be discriminated. Some of the results, however, are not in harmony with Miller's views: Group II (generalization) did not show the predicted decrease in discrimination accuracy; Group III showed as great an improvement in accuracy as Group I, although *S*s in this group did not learn distinctive responses. Some of the discrepancies between predicted and obtained results may be accounted for in terms of uncontrolled discrimination habits. (Slides)

Robinson, Mary Frances (*St. Joseph Jr. College*), **Freeman, Walter, & Watts, James W.** (*George Washington University*) **The self after psychosurgery.**

PROBLEM: Through a study of equated groups of *S*s, to test the hypothesis that prefrontal lobotomy changes the structure of the self by reducing self-continuity.

SUBJECTS: The control *S*s were 17 men and women, formerly state hospital patients, who had improved

without psychosurgery and had retaken their places in the community. These *S*s were matched as well as possible, patient for patient, with 17 individuals who had undergone standard prefrontal lobotomy. The criteria were age, sex, education, premorbid occupation, marital status, and diagnosis. Since a pool of 51 improved prefrontal lobotomy patients was available from which to draw, the matching was close, except that only one of the operatees had been diagnosed schizophrenic as compared with six of the controls. This choice was deliberate in order to eliminate the possibility that any reduction of self-continuity as should be found in the lobotomy patients could be attributable to schizophrenia.

PROCEDURE: A questionnaire and two tests, devised expressly to measure self-continuity, were administered to both groups of patients. Two of these procedures, the Sensibility Questionnaire and the Self-Regarding Span Test, were described in a preliminary report given to the Division of Clinical and Abnormal Psychology at the 1949 meeting of the APA in Denver. The third procedure, the Test of Self-Concern, measures qualitative aspects of the *S*s' protocols, as scored by five psychologists who served as judges.

RESULTS: Comparison of the actual responses of individuals in the two groups yields evidence that emotions and attitudes which are not characteristic of the controls, *are* characteristic of patients after the rather extensive brain damage resulting from standard prefrontal lobotomy. All three procedures showed differences between the groups that had high statistical significance.

CONCLUSIONS: Psychosurgery relieves morbid symptoms and produces behavior changes through reducing awareness of the continuity of the self. (Slides)

Roby, Thornton B. *see* Forgays, D. G.

Roby, Thornton B. (*Combat Crew Training Research Laboratory, HRRC, Randolph AFB*) **Some problems in the rational assembly of groups.**

The problem of group assembly is defined as one in which it is required that a fixed quantity of persons be totally utilized in making up a number of social or work groups. This entails the double problem of, first, predicting the expected performances of the various conceivable groups from measures attaching to their component individuals and, second, selecting the best over-all set of groups on the basis of an external criterion.

A notational framework is suggested which permits a relatively succinct presentation of the simple functions which may relate individual measures to group measures. A preliminary heuristic classification of these functions is advanced together with hypothetical examples employing common demographic or psychological variables. It is shown that these personnel-to-group functions may be classified both in terms of their content—that is, the sort of variate which they employ—and in terms of their operations on these variates.

The problem of choosing an optimal set of groups, given the foregoing functions, is described as a generalization of the Hitchcock-Koopmans transportation problem and similar problems involved in personnel classification (cf. Votaw, D. F., Jr., & Dailey, J. T. Assignment of personnel to jobs. Res. Bull. 52–24, Human Resources Research Center, Lackland Air Force Base, San Antonio, Texas). In this case, however, none of the existing logarithms for the solution of such problems is immediately applicable. Moreover, the combinational complexity is so great that even high-speed electronic computors would be inadequate to evaluate the possible assemblies by enumeration.

A number of suggestions are offered, however, which would, under certain assumptions, insure a very good approximation to the optimum. One possible method of obtaining approximations, which would completely bypass the explicit calculation of predicted group performance scores, is described in some detail since it appears to call for extensive statistical and mathematical study. (Slides)

Rogge, Genevieve O. (*Massachusetts Institute of Technology*) **The interpersonal signification of music.**

The study was conducted at the University of California, Los Angeles.

The purpose of the experiment was to determine whether, for people of varying musical sophistication, music has interpersonal signification which involves more than designation of an over-all mood.

Depth interviews were conducted with 18 college students representing high, medium, and low levels of musical sophistication after they had listened to three selections of unfamiliar music (excerpts from Bloch, Ravel, and Stravinsky). The *S*s' responses displayed the usual variety of surface associations, but a content analysis of the interviews indicated that on a more genotypic level there was striking similarity, for each composition, among responses to it.

From this content analysis 12 descriptions, each setting a scene and describing some activity, were constructed. There were two descriptions for each composition which embodied the genotypic pattern inferred from the content analysis for that composition. These six descriptions were termed "correct." The remaining six descriptions, again two for each

composition, displayed respectively the same over-all mood as the "correct" ones but differed in the genotypic pattern. The descriptions designed to correspond to one composition were considered "incorrect" for the other two.

Ninety college students who varied in musical sophistication were asked to listen to the three compositions and to select for each that one from the 12 descriptions which was the "best fit" for it. Chi-square treatment of the results showed significant differences and demonstrated that *Ss* of every level of musical sophistication most frequently matched the "correct" descriptions with the appropriate music. Between the "correct in mood only" and "incorrect" descriptions for a given composition, the former were used more frequently than the latter to characterize that composition.

It was concluded that the music studied signifies aspects of human experience, and that such signification is similar for different interpreters and involves more than simple indication of an over-all mood.

Rohrer, John H. *see* Rigby, Marilyn K.

Rose, N., Faison, E. W. J., & Podell, J. E. (*USC, HFORL–USAF, Tufts College*) **Effects of rest pauses during a training film upon audience responses.**

PROBLEM: This study was concerned with the effects upon audience attentiveness and learning of two methods of film presentation: (*a*) a continuous showing; and (*b*) a showing interrupted by three rest pauses of 30 seconds' duration.

SUBJECTS: 766 USAF basic trainees.

PROCEDURE: Thirty-eight groups participated in this experiment, 19 for each method of presentation. Infrared motion pictures were taken of 24 of these groups during the training film presentation. Ratings of attentiveness were later made from these photographic records. A postfilm information test was administered to all *Ss*.

RESULTS: (*a*) Attentiveness scores were significantly higher for the rest-pause groups. (*b*) Test performance was significantly higher for the rest-pause groups. (*c*) During the course of the film, attentiveness scores of the continuous-showing groups decreased in a fairly consistent manner. Attentiveness scores for the rest-pause groups were characterized by recovery immediately after each pause and sharp declines thereafter.

CONCLUSION: Introduction of rest pauses in film showings can produce greater attentiveness and learning. (Slides)

Rosen, Sidney. (*Research Center for Group Dynamics, University of Michigan*) **Some perceptual and behavioral components of social influence in small groups, as predicted by interpersonal adjustment in previous social environments.**

PROBLEM: To study the relationship between an individual's adjustment to his interpersonal environment and his social power in a new group setting. Theoretical considerations and previous research findings suggested the following hypotheses: when relatively adjusted (as contrasted to maladjusted) individuals are introduced into a new group, they will show (*a*) less perceptual distortion in evaluating their own power position and (*b*) greater agreement in evaluating each other on social power than the less adjusted persons. Behaviorally, they (*c*) will be relatively more successful in influencing others in the new group and (*d*) will show greater consistency in selecting targets for influence attempts than less adjusted persons.

SUBJECTS: 16 cabin groups of pre-adolescent and young adolescent boys in two four-week camps. One population consisted of 63 agency referrals assumed to be maladjusted, the other of 65 boys in a middle-class camp, assumed to be relatively adjusted.

PROCEDURE: Two research teams observed influence behavior daily. During individual interviews, *Ss* ranked their cabin members, including themselves, on "who is best at getting the others to do what he wants them to do."

RESULTS AND CONCLUSIONS: The above hypotheses were supported. However, since the adjusted boys were mostly of middle socioeconomic class, and the maladjusted boys of lower-class origin, a validating study was conducted among the agency referrals alone, to control for class. An index of maladjustment was constructed from individual case histories, to differentiate *Ss* with regard to degree of maladjustment.

Results in this second study showed that the relatively better adjusted boys were more perceptive than the others regarding both their own and others' power, had greater power attributed to them, and were actually observed to be relatively more successful in influencing others.

Implications of these findings for theory and for the practitioner are discussed.

This investigation was conducted under grant from the National Institute of Mental Health.

Rosenberg, Nathan, Izard, Carroll E., & Hollander, E. P. (*Tulane University and U. S. Naval School of Aviation Medicine*) **Middle category ("?") response: reliability and relationship to personality and intelligence variables.** (Sponsor, Nathan Rosenberg)

PROBLEM: Various types of response sets have been demonstrated in psychological testing. This study investigated one type, the "?" response, with respect to its reliability and relationship to personality and intelligence.

SUBJECTS AND PROCEDURE: Three Guilford-Martin inventories were administered to 344 Naval Aviation Cadets. Bernreuter scores were also available for 277 of these *S*s. Thirteen Guilford-Martin trait scores, ACE test scores, and years of schooling completed were used as independent variables. Four "?" scores were obtained by summing the number of "?'s" on each personality test. Intercorrelations were computed for these four scores, and correlations between selected combinations of scores. From this analysis, Bernreuter "?" scores and the sum of "?" scores from three Guilford-Martin tests were defined as dependent variables. These two scores were then correlated with Guilford-Martin trait scores.

RESULTS: (*a*) The mean number of "?'s" was equal to about 8% of the number of personality items. (*b*) The distribution of "?" scores approximated a J-curve. (*c*) The reliability for Bernreuter "?" scores was estimated as .64; for a single Guilford-Martin test as .72; for the sum from three Guilford-Martin inventories in the low eighties. (*d*) Question-mark scores were independent of ACE and educational level attained. (*e*) Bernreuter and Guilford-Martin "?" scores correlated significantly, and about equally, with 10 Guilford-Martin traits: GAMIN, OAgCo, and TR of Test STDCR. These correlations were judged spurious, however, because of the method of scoring "?'s" utilized in Guilford-Martin tests.

CONCLUSIONS: Question-mark responses on objective personality tests measure a stable trait. These data indicate the independence of this trait from intellectual factors, but do not permit generalization concerning personality. Implications of these findings for measurement theory will be discussed, with particular reference to the J-curve.

Rosenberg, Seymour, & Levy, Bernard I. (*Combat Crew Training Research Laboratory, HRRC*) **A proposed method for increasing interjudge agreement in the classification of verbal material.**

PROBLEM: Many research problems in psychology require the classification of controlled or spontaneous verbal responses. Typically, because such classification systems are not explicitly defined, they necessitate the use of sophisticated or extensively trained judges to insure adequate reliability. This paper contains: (*a*) a method by which category definitions are derived from preliminary classification by nonprofessional judges, and (*b*) tests of the effectiveness of these definitions for increasing interjudge agreement.

SUBJECTS AND PROCEDURE: A sample of 96 judges consisting of airmen and college ROTC students was asked to classify 300 clauses taken from TAT protocols. The classification system was based upon the discomfort, relief, and neutral categories described by Dollard and Mowrer. On the basis of these results, items were placed in the categories according to the modal frequency of the judgments. From these groupings the authors developed more explicit content principles for each category. New definitions were based on these principles. The 300 clauses were then readministered to the sample with half the judges using the original definitions and the other half using the new definitions.

To control for the experience of classifying twice, a new sample of 72 judges was divided into two groups and given the original and new definitions, respectively.

RESULTS AND CONCLUSIONS: Several analyses were performed to determine if the modal frequencies were increased through the use of the new definitions. The more prominent results indicated: (*a*) an over-all increase in interjudge agreement in the new-definition group which was significantly different from any changes in the old-definition group; (*b*) a differential increase in interjudge agreement among the categories, with discomfort and relief increasing while the neutral category shows a decrease; and (*c*) the second sample supported the results obtained with the first.

It was concluded that the proposed method can be utilized for increasing interscorer agreement without the necessity of extensive scorer training or the use of professional judges. The possibility of employing the method for other classification systems is considered. (Slides)

Rosvold, H. Enger, & Delgado, José M. R. (*Laboratory of Physiology and Department of Psychology, Yale University School of Medicine*) **The effect on the behavior of monkeys of electrically stimulating or destroying small areas within the frontal lobes.** (Sponsor, H. Enger Rosvold)

Eight rhesus macacas were trained to the criterion of 95% correct on each of three successive days on the delayed alternation and visual discrimination tests. By means of the Horsley-Clarke Stereotaxic Instrument one multilead electrode was then implanted in each frontal lobe at the following locations. Four

monkeys: A22, L7; two monkeys A22, L3; one monkey A22, L11; one monkey A27, L7. Each electrode contained four points 4 mm. apart and the most ventral point was placed 20 mm. below the cortex of the superior surface. All monkeys were then given additional practice on the tests until they consistently performed for 50 trials with no more than one error in each ten trials.

Each point was stimulated bilaterally on three different days in a balanced order. The results were essentially the same for all lateral positions: when the most ventral point was stimulated, performance on the delayed alternation test fell to a chance level; when the other points were stimulated, performance was unaffected in spite of severe motor disturbance. The performance of the visual discrimination test was unaffected by stimulation of any point. In addition, stimulation of the most ventral point would alter aggressiveness, eating behavior, and produce hyperactivity.

Later when this point was destroyed by electrocautery, performance on delayed alternation was affected for more than 1,000 trials, whereafter it was at criterion. Hyperactivity was permanent in some animals. Eating behavior was transiently affected in the L7 animals.

The animals were sacrificed and their brains sectioned for verification of the site of the lesion. It was shown that the lesions were in the ventromedial quadrant of each frontal lobe and approximately spherical of only 2 mm. diameter.

It was concluded that many of the effects of radical lobotomy in monkeys can be achieved with very small lesions within the frontal lobe. (Slides)

Roy, Howard L., & Scholnick, Gabriella R. (*Personnel Research Branch, TAGO*) **Content analysis of officer candidates' autobiographies for selection purposes.**

PROBLEM: To develop a technique for assessing autobiographies of officer candidates to predict leadership ratings at Officer Candidate School.

SUBJECTS: The sample consisted of six successive classes at Fort Belvoir, Engineers' OCS.

PROCEDURE: Thirty-one autobiographies from Class 1 were used for exploration of various techniques. Ten professional and two clerical members of the staff assessed these papers independently. Techniques tried ranged in character from purely subjective, impressionistic to semi-objective. Another aspect of the study involved the testing of hypotheses concerning the predictive power of single objective variables such as sentence length, population of birthplace, and number and sex of siblings.

Those techniques, both subjective and objective, which proved most promising on the basis of the preliminary exploration were then tried out on three additional classes, with a total of 80 cases. In addition, an attempt was made to have the constructors of the most valid assessment systems teach their methods to others.

RESULTS: The validities of the subjective assessments for the first class ranged from .30 to 0 with a mean of .13. The validities of the objective measures ranged from .36 to $-.18$. The most promising of these were engineering interest, number of siblings, and Flesch personal reference count.

The validities of the subjective assessments in the cross-validation classes ranged from .28 to .40. Teaching these subjective systems to others yielded validities of .18 to .29. For the objective measures the cross validation ranged from $-.16$ to $+.28$. Most of the results are statistically significant.

CONCLUSIONS: Usefully valid objective and subjective systems of autobiography assessment can be developed. Both objective and subjective assessment systems are capable of being taught to others without undue loss of validity. Further research is necessary to determine if these assessment methods are useful selection techniques for OCS.

Rubin, Harold. (*VA Hospital, Lebanon, Pennsylvania*) **A quantitative study of the H-T-P and its relationship to the Wechsler-Bellevue Scale.**

PROBLEM: To evaluate the effectiveness of the H-T-P as a measure of intelligence and to compare its quantitative scoring with that of the Wechsler.

SUBJECTS: 108 hospitalized NP veterans, largely psychotics, with a mean age of 30.2 years and a mean educational level of 10 years.

PROCEDURE: All *S*s received both the H-T-P and Wechsler-Bellevue tests as part of a battery, within one month following admission to the hospital. H-T-P "Raw G" and "Net Weighted" IQ's were compared respectively with Wechsler-Bellevue Verbal, Performance, and Full Scale IQ's. All cases with a disparity of 15 points or more between the H-T-P and Wechsler-Bellevue IQ's were analyzed to determine whether these differences were related to intellectual level. A check was made of score patterns suggested by Buck as indicating maladjustment, namely those cases with a disparity of 15 points or greater between "% Raw G" and "Net Weighted" IQ's.

RESULTS: Main IQ's computed for the group were 96.18 for "% Raw G," 92.15 for "Net Weighted," and 101.58 for W-B Full Scale. An F test yielded no significant differences between these means. The "% Raw G" IQ scores correlated .674 with W-B Full Scale IQ, .634 with W-B Performance IQ, and .623 with W-B Verbal IQ. The "Net Weighted" IQ scores correlated .636 with the W-B Full Scale IQ,

.604 with the W-B Verbal IQ, and .580 with the W-B Performance IQ. All correlations were statistically significant. Seven of the 108 patients revealed a pattern of "maladjustment" when the drawings were analyzed according to Buck's recommended procedure.

CONCLUSIONS: In a group of NP patients, the H-T-P was found to correlate significantly with the Wechsler-Bellevue as a measure of intelligence. The "% Raw G" IQ had the greatest predictive value in this respect. Buck's score patterns, proposed to indicate maladjustment, did not identify this group of psychiatric patients as "maladjusted."

Rubinstein, Eli A. *see* Lorr, Maurice

Rush, Carl H., Jr. (*Ohio State University*) **A comparison of group characteristics in three samples of aircrews.**

PROBLEM: This paper describes an investigation of group structural characteristics in three samples of Air Force bomber crews. Objectives of the study were: (*a*) to develop an instrument with which crew members could describe the behavior of their crew, (*b*) to identify the factor composition of crew members' descriptions, and (*c*) to examine differences in group characteristics among crews in three widely different samples.

SUBJECTS: 52 B-29 crews in training for combat duty (Sample A), 85 B-29 and B-50 "lead" and "select" crews in the Strategic Air Command (Sample B), and 95 B-29 crews engaged in combat operations in Korea (Sample C).

PROCEDURE: A Crew Description Questionnaire was constructed and administered to 2,100 crew members in the three samples. This instrument, an Air Force adaptation of the Hemphill-Westie Group Dimension scales, consisted of 60 declarative statements pertaining to specific crew behavior. In responding to these items, crew members indicated, on a five-point scale, the extent to which each statement was true or false in their crew.

RESULTS: An iterative factor analysis of item responses in Sample A resulted in the identification of five relatively orthogonal factors which were designated as: Control, Intimacy, Harmony, Procedural Clarity, and Stratification. The stability of these factors was tested by attempting to account for interitem correlations in Samples B and C with item factor loadings from Sample A. Results of this analysis showed a high degree of consistency in the factor composition of crew members' descriptions in the three samples. The five factors and the items comprising them will be discussed.

The three samples of crews were compared on each of the five crew dimensions and a number of significant differences were found. Because the same factors were present in the descriptions of crew members in all samples it would appear that the characteristics of crews in training and combat differ only in degree. The differences in crew characteristics will be interpreted in terms of situational variables such as types of activities (training vs. combat), opportunity for interaction, types of personnel (Regular vs. Reserve), and length of association.

This research was supported by the Human Factors Operations Research Laboratories, United States Air Force, under Contract No. AF 18 (600)-27.

Russell, Wallace A., Jenkins, James J., & Mink, Walter D. (*University of Minnesota*) **Associative clustering as a function of verbal association strength.** (Sponsor, Wallace A. Russell)

PROBLEM: The relevance of word association techniques for the experimental study of contextual determinants of verbal behavior is generally recognized, but attempts to quantify the variables involved and to state precise relationships have been few. This study undertook to determine the functional relationship between the strength of verbal associations, as indicated by the frequency of a given response in norms for the Kent-Rosanoff word-association test, and the tendency for the associated words to appear together during the recall of randomized word lists.

PROCEDURE: 117 adult *Ss* were required to recall incompletely learned word lists which consisted of randomized stimulus and response words from the Kent-Rosanoff test. The amount of associative clustering (i.e., the number of associated pairs which appeared together during recall) was determined for groups in which the independently estimated strength of the verbal association was systematically varied. These estimations were obtained by the following technique, which earlier work had suggested. (*a*) New normative data for the Kent-Rosanoff test were obtained by administering the test to 1,026 college students. (*b*) The percentage of the total group giving each response to each stimulus was determined and used as an estimate of the cultural strength of the associations involved.

Four word lists which differed in the average strengths of the component associative pairs were compiled and each was administered to a separate subgroup. In group 1 ($N = 30$) the mean association strength was 68.6; in group 2 ($N = 31$) it was 46.4; in group 3 ($N = 29$), 29.1; and in group 4 ($N = 27$), 12.8.

RESULTS: The amount of associative clustering was an increasing monotonic function of association strength. An analysis of variance performed on a square root transformation of the index of clustering

yielded an F significant beyond the .01 level. With one exception, differences between adjacent groups were significant beyond the .05 level. (Slides)

Sanders, Wilma B. *see* Osborne, R. Travis

Sanderson, J. Wesley *see* Case, Harry W.

Sapon, Stanley M. *see* Saul, Ezra V.

Saul, Ezra V., & Sapon, Stanley M. (*Tufts College and Ohio State University*) **Findings on the differential resistance to noise of French, Spanish, and English.**

PROBLEM: The objective of this study was to attempt to assess the differential effects of white noise on the intelligibility of French, English, and Spanish materials.

SUBJECTS: The experimental subjects were nine instructional personnel of the Romance language department of the Ohio State University who were qualified to teach French, Spanish, and English. The *S*s were of both sexes and all reported normal auditory sensitivity.

PROCEDURE: The employed experimental procedure was comparable to that reported by Heise, Miller, and Lichten in that the *S*s listened to tape recordings of materials under varying noise conditions. Five signal-noise ratios were used which included noise components varying from 0 to 80 V.U. meter readings. The order of presentation of the materials in the various languages was counterbalanced and each *S* served in all conditions. The language materials were composed of words (isolated) and sentences taken from lists of proverbs, aphorisms, common sayings, etc. which are all well known to conversationalists in the above mentioned languages. The lists of isolated words were randomized assortments of the same words used in the sentence materials. This procedure permitted the evaluation of "isolation" and "context" on intelligibility under noise conditions.

RESULTS: Analysis of the data indicates a consistent superiority in intelligibility of context materials over isolated materials. Likewise, intelligibility was superior under conditions of minimal noise as compared to conditions of maximal noise. These findings apply to all three languages studied. Examination of the data to ascertain any differential effects of noise on the intelligibility of the three languages revealed several instances in which Spanish materials were significantly less affected by noise than either English or French. In addition, it was determined that French and English did not differ significantly in their resistance to noise.

CONCLUSIONS: The findings of the present study appear to permit the conclusion that Spanish is somewhat more resistant to noise than either French or English when intelligibility measures are used. In addition, results on the role of context and noise on intelligibility of materials confirm traditional principles. A discussion of the relation of the present findings to psychological and linguistic theory as well as to communication problems is included.

Saunders, David R. (*Educational Testing Service*) **An analytical method for rotation to orthogonal simple structure.**

Clear simple structure may be defined in terms of high leptokurtosis of a certain distribution of factor loadings. The distribution is formed by including each variable in both its normal and reflected form (since the direction of original scoring is analytically arbitrary) and including all factors at once. It has a mean of zero.

Maximum kurtosis when the factor axes are orthogonal is obtained when the sum of fourth powers of all factor loadings is a maximum. Then, a necessary condition for a "best" simple structure is that

$$\sum_i a^3_{ij} a_{ik} = \sum_i a_{ij} a^3_{ik}$$

for every pair of rotated factors, j and k, where i denotes a variable.

The "best" simple structure defined by this method is unique for any given matrix, and convenient convergent procedures are available for finding it. The completely numerical procedure may require electronic computing equipment; for hand or mechanical equipment the labor may be reduced by plotting conventional two-factor graphs selected by the procedure.

Application of the method to data in the literature illustrates the procedure and results. In one example, the previously obtained result is closely duplicated. Two sets of random vectors, matched to the real data on the basis of communality, are unable to yield as good a simple structure as the experimentally derived vectors. In another example, the reported simple structure does not yield so high a sum of fourth powers as the centroid matrix; however, application of the analytical procedure reveals a solution superior to either, which also seems to clarify the reported interpretation.

Schaerer, Robert W., & Mech, Edmund V. (*Institute of Educational Research, Indiana University*) **Resistance to extinction of two schedules of reinforcement in the operant conditioning of a verbal response.** (Sponsor, Edmund V. Mech)

The deduction to be made from infrahuman experiments, when reinforcements are massed, is that differences will exist in extinction between groups

given partial or continuous reinforcement. It is the application of this deduction to the conditioning of verbal behavior which the present experiment intended to test.

The *S*s, 20 college students enrolled in an elementary education class, were randomly assigned to two subgroups. Each *S* was given the following instructions: "The task in the experiment is a simple one. You are to say out loud any numbers that you wish. It is important that you continue this operation until the experimenter tells you to stop. You will be told when the numbers you are saying are on the 'right' track. Attempt to say the numbers at a pace which is normal for you."

Clearly, then, *S*s were emitting verbal responses. The experimenter decided beforehand to condition *S*s to any number containing an eight. The reinforcement used was a "right" from the experimenter. The *S*s in the continuous reinforcement group were told "right" each time a number containing an eight was emitted, while the partial reinforcement *S*s were told "right" only 50% of the time a number containing an eight was emitted. The criterion used for conditioning was 20 serially "correct" responses. When the criterion was reached, *S* was placed on a 5-minute extinction schedule. The basic data consisted of the number of "correct" responses made in extinction as compared with the total number of responses made.

A chi-square analysis of the data indicated that: (*a*) 50% reinforcement increases the resistance of a verbal response to extinction and appears superior to 100% reinforcement. (*b*) The extinction curve for partial reinforcement appears smoother and less vacillating than the continuous reinforcement extinction curve. (Slides)

Schein, Edgar H. (*Army Medical Service Graduate School*) **The effect of reward on imitation.** (Sponsor, Richard L. Solomon)

PROBLEM: The hypothesis was tested that adult human *S*s would learn to give a verbal imitative response if such a response was rewarded, and that this response, once learned, would generalize to a new but similar situation.

SUBJECTS: 300 Army inductees.

PROCEDURE: The *S*s were run in groups of five through two successive "tests." The *S*s always gave their answers out loud and in the same order. On the learning test, which consisted of 25 multiple-choice problems of a concept-formation variety, the experimenter arbitrarily chose the answers of the second man in the order of responding to be "correct" on the last 20 items of the test. The *S*s responding after this man on each item could obtain a "correct" answer only by imitating. In the control groups "correctness" was assigned on each problem randomly, thus removing any reward for imitating anyone in particular.

Three different tests of generalization, varying in the degree of similarity to the first test, were administered immediately after the first test. Each group of *S*s received only one type of generalization test. Correct answers were no longer announced on any of the items.

RESULTS: (*a*) A significantly greater amount of imitation occurred in the experimental groups than in the control groups, but the actual level of imitation reached was not very high in an absolute sense. (*b*) On the generalization test most similar to the first test, a significant amount of positive generalization appeared. On the test of least similarity no generalization appeared; but on the test of intermediate similarity a reversal occurred in which there was more imitation of the second man in the control groups than in the experimental groups. An *ad hoc* explanation of this reversal and the low level of imitation on the first test was made in terms of the *S*s' motivational conflict about whether to imitate or not. (Slides)

Schneider, Marvin *see* Freeburne, Cecil M.

Scholnick, Gabriella R. *see* Roy, Howard L.

Schooler, Kermit K. (*U. S. Department of State*) **A study of the errors of content analysis.**

PROBLEM: To test hypotheses derived from perception theory and concerned with relationships between ambiguity of the task, the coder's attitudes and expectations, and measures of bias and random error in the content analysis of open-end interview responses.

SUBJECTS: Ten adults who had been hired by the Survey Research Center of the University of Michigan to code a study of political behavior.

PROCEDURE: Measurements were made to determine coders' attitudes relevant to the questions they were to code. Coders were also required to state what they expected would be the percentage distribution of the sample on the various questions to be coded. All coders coded the same 100 interviews on several questions chosen to represent four levels of ambiguity. The more ambiguous tasks were "area" codes purposely constructed by the author for this research, and were not part of the study of political behavior.

RESULTS AND CONCLUSIONS: Statistical analysis confirms the hypothesis that bias increases with ambiguity and demonstrates that bias is more a function of expectation than of the coder's own attitude. Analysis of components of variance yields data significant for sampling theory and practice. Implications for perception theory and for survey research methods will be discussed.

Schreiner, Leon *see* Brady, Joseph V.

Schultz, Douglas G. (*Educational Testing Service*) **The relationship between college grades and Selective Service College Qualification Tests scores for various socioeconomic groups.**

PROBLEM: To compare the relationship between college grades and Selective Service College Qualification Tests scores for high, middle, and low socioeconomic groups.

SUBJECTS: Approximately 1,700 male students in seven colleges who took the Selective Service College Qualification Tests (SSCQT) in May and June of 1951.

PROCEDURE: A questionnaire including items on occupation of head of family, highest educational level completed by father, and annual income of family head was sent to the *S*s soon after they had taken the SSCQT. The return was over 75%. On the basis of responses to each of these items, three socioeconomic groups were formed. The regression of grades on SSCQT scores was determined for each of the three groups separately and the three regressions were compared using the analysis of covariance technique developed by Wilks and Gulliksen. Sixteen separate analyses were made for different college classes and types of colleges.

RESULTS AND CONCLUSIONS: In none of the comparisons did the standard errors of estimate or the slopes of the regression lines differ significantly among the status groups. The differences among groups in regression line *y*-intercepts (grade axis) were all small and not statistically significant, except for one case significant at the 5% level. Over all the data, there was no consistency in direction of these intercept differences, even though there was some tendency for the SSCQT scores alone to increase from low to high status levels. It is concluded that the SSCQT predicts college grades equally well for high, middle, and low socioeconomic groups. The problem of interpreting the results is discussed in view of the small proportion of low-status *S*s. The findings are considered as they bear upon the question of aptitude test "fairness" for different socioeconomic groups.

Schultz, Margaret K., & Angoff, William H. (*Educational Testing Service*) **The development of new scales for the Aptitude and Advanced Tests of the Graduate Record Examinations.**

The Graduate Record Examinations offer, among other tests, an Aptitude Test and a series of Advanced Tests in the usual major areas of college study. These two tests are taken primarily by college seniors and graduate students participating in institutional testing programs, and by candidates for admission to graduate schools.

In the spring of 1952, a program of rescaling was initiated for three primary reasons: (*a*) there had been changes in the characteristics of the groups who normally take these tests; (*b*) there had been changes in the content of the tests; and (*c*) there was a desire to introduce new scales for the Advanced Tests which would reflect differences in Aptitude Test score among the groups taking the various Advanced Tests.

The scale standardization group, consisting of 2,095 seniors in eleven colleges, was chosen to yield a wide range of scores and a level of performance near the average of the groups who normally take the tests. Each student was given the Aptitude Test plus the Advanced Test in his major field. The Aptitude Test was rescaled to yield a scaled score mean of 500 and a standard deviation of 100 for the entire standardization group. Then, maximum likelihood estimates were made of the mean and variance on each Advanced Test for the entire standardization group, utilizing the differences in Aptitude Test performance between the entire standardization group and the group taking the particular Advanced Test. These estimates were then converted to yield a mean and standard deviation of 500 and 100, respectively.

The advantages of the new type of scale system for the Advanced Tests are that it facilitates comparisons between Aptitude and Advanced Test scores for individual students and that it reduces the likelihood of misinterpretation in the comparison of students who take different Advanced Tests.

Schultz, Howard G., & Pilgrim, Francis J. (*Quartermaster Food and Container Institute, Chicago*) **Changes in the self-selection pattern for purified dietary components by rats after starvation.**

PROBLEM: It can be hypothesized that animals after a period of starvation will: (*a*) make up the caloric deficit with foods of high caloric density; (*b*) avoid carbohydrates in order to prevent gastrointestinal disturbances. This experiment was designed to determine the changes in the selection by rats of protein, carbohydrate, and fat after 48-hour starvation periods.

SUBJECTS: 42 male albino rats, 40 days old, weighing 125 to 150 gm.

PROCEDURE: Rats housed in individual cages self-selected their diets from casein, fat, sucrose, salt mixture, and water. They were supplemented daily with a vitamin mixture. At the end of three weeks of self-selection 22 rats were selecting adequately as measured by growth and protein consumption (Group I). The sugar and fat consumption of 20 inadequate selectors was restricted temporarily in order to increase acceptance of casein. Ten of these animals that then

became adequate selectors comprised Group II. After six weeks of self-selection, Group I was starved for 48 hours with access to water only, and then returned to self-selection. The procedure was then repeated with Group I and with the inclusion of Group II. RESULTS: The amounts of each food eaten (excluding salts) were converted to calories and an analysis of variance was run on each food component for Group I. This analysis indicated: (*a*) calories from fat increase significantly after starvation; (*b*) calories from sugar and protein do not change significantly. Results from Group II support these data. The results are discussed in relation to the suggested hypotheses. (Slides)

Schwarz, Paul A. *see* Glaser, Robert

Sears, Pauline Snedden (*Stanford University*), **& Staff of the Laboratory of Human Development, Harvard University. Child-rearing factors related to playing of sex-typed roles.**

PROBLEM: Theoretically, the sex-typed identification behavior shown by young children in role-playing should be a consequence of positive instigation to play the role and negative inhibition against it. It is hypothesized that the crucial antecedent factors will include: (*a*) child's recognition of the fact of his own sex, (*b*) nurturance or warmth of the parent chiefly responsible for child-rearing, (*c*) warmth of same-sex parent, (*d*) anxiety, which may arise from punishment or from restriction on the child's attempts to be self-directing. The present study relates these factors to the child's free choice of parent roles in permissive doll play.

SUBJECTS: 202 boys and 177 girls, all kindergarten age, plus their mothers.

PROCEDURE: The children were given two sessions of doll play, scored on frequency of use of agents for "good" (nonaggressive) behavior. Scores for antecedent factors were obtained from ratings on interviews with mothers.

RESULTS: (*a*) Girls choose the mother doll as agent significantly more frequently than the father doll. (*b*) Boys do not make this differential choice; however, they use the father doll more than the girls do. (*c*) Positive choices for the same sex role and avoidance of the opposite sex role are in general associated with antecedent conditions of warmth, permissiveness, and low restrictions. (*d*) Delayed role-playing (scores low the first session, presumably through inhibition, but high second session) occurs in children whose homes appear to be lacking in warmth and high in restriction of activities which may bother the parents. (*e*) Boys take the *mother* role most strongly under the following conditions: mother, but not father, is high in warmth; mother is high in sex permissiveness, restrictive of the child's mobility outside the home, and critical in her evaluation of her husband. (Slides)

Sears, Robert R. (*Stanford University*), **& Staff of the Laboratory of Human Development, Harvard University. Preliminary report on a study of identification.**

PROBLEM: Identification has been conceived as a process to account for the child's absorption of parental values and properties that seem not to be learned entirely by direct tuition. It has been used to aid in the theoretical account of the development of guilt, conscience, sex-typed role playing, and other behaviors that are strongly and permanently incorporated in the personality. A study was designed to secure measures of some of these behaviors in five-year-old children and to discover their correlates in the child-rearing practices and attitudes of their mothers.

SUBJECTS: 379 mothers, and their five-year-old children (202 boys, 177 girls) in public school kindergartens from suburban metropolitan areas in New England. The parental sample ranged widely in age, education, socioeconomic status, and ethnic origin.

PROCEDURE: A standardized interview was used with the mothers. It covered both infant and current child-rearing practices, together with material relating to family interrelationships. The interviews averaged two hours in length, were recorded in the home, and then transcribed. They were rated on over 200 scales, descriptive of child-rearing dimensions of behavior. The children were given two 20-minute sessions of standardized permissive doll play, and a half-hour projective test for the measurement of guilt. Teacher ratings of activity, aggression, and conscience were obtained. All data have been punched on IBM cards and this paper, together with the three others on the program, reports some preliminary findings.

RESULTS: A theory of sex-typing may be constructed on the basis of differential treatment of boys and girls by their mothers. The interviews show differences, on a number of scales relating to the areas of discipline and emotional interaction, that seems relevant to such a theory. A survey of sex differences and of ordinal position differences will be presented.

Seashore, Harold G. (*Psychological Corporation*) **Tests in the tenth grade as predictors of graduating status and status on college entrance tests.**

How well do the scores on the Differential Aptitude Tests and the Otis test predict (*a*) final high school status and (*b*) scores on the ACE Psychological Examination and the CEEB-SAT in the twelfth grade? The study arose from a question asked by a group of schoolmen: Can we prove to college admissions officers that they should pay more atten-

tion to pupil personnel information secured before the time of senior year entrance examinations? This study is a piece of the answer to this question.

The *Ss* were members of two entire graduating classes, 245 boys and 307 girls, in one school. Limited data from another school are also included. The students were treated as a group and also were classified by curricular groups. All had the ACE test near the end of grade twelve; 140 had taken the CEEB-SAT. The data are analyzed by profiles, intercorrelations, and expectancy tables. The results are separately reported for boys and girls and for curricular groups.

The implications for school administration, college admission policies, and pupil counseling are discussed under these points: prediction from grade ten to grade twelve, differential curricular profiles, notes on the utilization of talent, the use of the cumulative record in selection by colleges, and the advisement of the noncollege group.

Sechrest, Lee B., & Hemphill, John K. (*Ohio State University*) **Motivational variables in the assuming of combat obligation.**

PROBLEM: To compare and interpret the differences between the responses to the stems of Rotter's Incomplete Sentences Blank of two samples of aircrew members: one comprised of men who proceeded directly into combat after combat crew training; the other, of men who had an equal opportunity to go into combat but did not go.

SUBJECTS: 340 combat crew members who were trained together in Combat Crew Training School, divided into a group of 283 men who went overseas into combat and a group of 57 men who did not go into combat.

PROCEDURE: Rotter's Incomplete Sentences Blank was administered to each of the 340 crew members while they were undergoing training. The responses made by the crew members were categorized according to a previously developed system. Sixteen scoring scales were then established on the basis of the categorized responses. The scores of the two groups of crew members were then compared on each of these scales.

RESULTS AND CONCLUSIONS: The overseas group made a significantly greater number of completions indicative of (*a*) desires for more education or training, (*b*) less somatic complaints, and (*c*) general satisfaction with the Air Force. They also tended to respond with completions indicative of (*a*) feelings of social responsibility, (*b*) optimism, and (*c*) no marked concern about their financial status. These results are interpreted in terms of patterns of attitudes associated with a man's willingness to place social obligations above immediate personal rewards. This study indicates the feasibility of further research in the development of personnel procedures for selecting aircrew members in such fashion as will obviate the expensive training of men who ultimately are likely to avoid the combat assignments for which they have been trained. This research was supported by the Human Factors Operations Research Laboratories, United States Air Force, under Contract No. AF 18 (600)-27.

Secord, Paul F. *see* Jourard, Sidney M.

Secord, Paul F., Dukes, William F., & Bevan, William. (*Emory University*) **Personalities in faces: an experiment in social perceiving.**

PROBLEM: Unlike previous investigations of physiognomy, relationships between two perceptual variables, perceived facial characteristics and personality traits as perceived in faces, were studied.

PROCEDURE: 24 photographed adult male faces constituted stimulus material. Photographs with readily interpretable emotional expressions or other artifacts were not included. Seven-point rating scales provided measurements of 23 physiognomic and 35 personality traits, 146 college students rating either physiognomy or personality. Statistical indices were developed to indicate: (*a*) agreement—degree of consensus, for a given photograph, on the rated physiognomic or personality traits; (*b*) objectivity—reliability of a trait-rating; (*c*) eccentricity—extent to which physiognomic or personality ratings tended toward the extremes for a given photograph; and (*d*) relevance—degree to which the various physiognomic traits accounted for the attribution of personality traits to the photographs.

RESULTS AND CONCLUSIONS: 1. Marked agreement and objectivity were obtained; each was comparable for physiognomic and personality traits.

2. Physiognomic and personality eccentricity varied together to a significant degree; i.e., persons with "average" physiognomies were perceived as having "average" personalities, and those with eccentric physiognomies, eccentric personalities.

3. Relevance varied considerably from trait to trait. Most relevant were: age, skin texture, fullness of lips, facial tension, horizontal wrinkles in brow, eye depth.

4. By an analysis of variance procedure, combinations of physiognomic traits were found to be significantly associated with combinations of personality traits.

5. Of 50 predicted *r*'s between specific physiognomic traits and particular personality traits, 49 were in the expected direction, many of them highly significant. In general, physiognomic traits were interactive rather than independent determinants, although mouth curvature and facial tension were each found to correlate highly with a number of personality traits.

6. The implications of physiognomic stereotypes

were discussed, with particular emphasis upon the problems involved in explaining their existence. (Slides)

Segel, David (*U. S. Office of Education*), **& Tait, Arthur T.** (*Technical Services, California Test Bureau*) **Standardization and validation of a new secondary level aptitude test battery.**

PROBLEM: A new aptitude test battery to be called the "Multiple Aptitude Test," consisting of 11 tests on various mental traits including one test on eye-hand coordination, is being standardized and validated as a differential diagnostic and prognostic instrument for individual guidance at the secondary level. This process is a very costly and complex one and this preliminary report gives only the most significant and over-all data and results.

SUBJECTS: The battery has been given to a representative sampling of pupils of each sex in each grade, 7–12, throughout the United States.

PROCEDURE AND RESULTS: Normative data by grade, age, and sex, and reliability data are discussed by groupings of sex, grade, and others. Fundamental validity data of the tests for diagnostic and predictive purposes have been obtained through the intercorrelations among the different tests, correlations with other test results, and with school success ratings in various school subjects. These various data are analyzed by the differential diagnostic techniques developed by Kelley and by the differential prediction techniques developed by Segel. The procedures outlined and pertinent data presented show in part the value of the new battery. Other studies using the factorial approach will be presented at another time.

CONCLUSION: The analysis of the data shows that the new aptitude battery will serve well the various purposes in the guidance of the individual as well as providing information of value for instruction and curriculum development.

Senders, J. W., Webb, I. B., & Baker, Charles A. (*Wright Air Development Center and Antioch College*) **The peripheral viewing of dials.** (Sponsor, Charles A. Baker)

Most investigations of the display characteristics of dials and pointers have been carried out with foveal fixation of the dial. It is probable, however, that information may be obtained from dials seen in the periphery. It is also possible that the narrow pointer, optimum for foveal viewing, may not be so satisfactory when dials are seen peripherally. The present experiment was designed to compare four types of pointers viewed at various angular displacements from the fovea.

The apparatus consisted of a modified perimeter which permitted subject-controlled tachistoscopic exposures. The four stimulus cards used were simulated dials with pointers. Two hundred and fifty-six readings were obtained from each of five practiced *Ss*. Each *S* was shown each pointer in each of eight positions and eight degrees of displacement from the fovea, in random order. Monocular fixation was used throughout. Exposure time and errors in reported pointer position were recorded. Error scores were subdivided into two categories, reversal errors (e.g., a report of 12 o'clock for 6) and all other errors.

The results show a sigmoid rise in exposure time with increasing angular displacement from the fovea from 10° to 80°. The curve of all errors combined is approximately linear. From 10° to 40° approximately 95% of the errors are reversals, but farther out in the periphery, true errors make a greater contribution to the total error curve, amounting to 80% of the errors at 80°. At this displacement, 26% of the responses (twice chance) are still correct. Reading time is inversely proportional to pointer width.

Senders, Virginia L. *see* Cohen, Jerome

Sessions, Alwyn *see* McFarland, Robert L.

Seymour, Robert V. *see* Austin, George A., and Bruner, Jerome S.

Shagass, Charles *see* Smith, A. Arthur

Shapiro, David. (*U. S. Educational Commission for France*) **Psychological factors in friendship choice and rejection.**

This was a study of the personality correlates of friendship choice and rejection. It was assumed that within a particular subculture sociological and adventitious factors play a minimal role and personality factors play an important role in determining the individual's choice of friends.

Two general hypotheses were derived from previous empirical findings and personality theory: (*a*) Individuals tend to choose as friends those persons who are similar to themselves in personality traits, values, and self-percepts. (*b*) The principle of similarity in friendship selection is more typical for friendship choices made by individuals who are relatively well adjusted.

The *Ss* were 19 sorority women, ages 19 to 22, at the University of Michigan. This group was relatively homogeneous with respect to demographic and objective personality measures. In addition to the predictive measures derived from standard tests, each *S* was rated by the others on several status variables: popularity, prestige, etc.

In order to provide measures of "real-self" and "ideal-self" percepts, descriptive personality checklists adapted from the *Q* technique were administered. The congruence of single *Ss*' "real" and "ideal" selves

was found to be a reliable and valid measure of "self-satisfaction," the criterion of adjustment.

Two criteria of friendship were selected on the basis of responses to five sociometric questions: (*a*) an index of "friendship choice," (*b*) an index of "leisure time associates." These were the most dissimilar of the five sociometric questions although significantly interrelated.

An analysis of the correlates of popularity (sociometric status) revealed that the profiles based on objective personality measures for "chosen," "neutrals," and "rejected" groups were definitely differentiated.

An analysis using both single personality measures and profiles of these measures tended to confirm the hypotheses of subject-choice similarity. The greatest profile similarity was found for pairings of *S*s and individuals preferred by them as friends but not mentioned by them as associates (nonactualized friendship choices).

Friendship choice pairings tended to show an even greater congruence of "real-self" descriptions than of objective personality scores. Individuals appear to seek "similars" for their new friends and tend to consummate satisfactory friendships with "similars." Well-adjusted persons appear to be able to choose "similars" and reject "dissimilars" more so than those individuals who are less well integrated.

The similarity of "ideal-self" concepts appears to be an over-all condition of friendship. In a homogeneous group, members may be molded together with common ideals. This tends to reduce the likelihood of close, independent, reciprocal friendships but may heighten total group effectiveness.

Although pairings in this group tended to be more congruent on the personality measures than random pairs of women selected from the general population, significant differences were found which confirm the principle of similarity in friendship selection. If this conclusion may be drawn from a group as homogeneous as the one studied, then it is even more likely that the principle of similarity in the assortative selection of friends will be applicable to other groups, especially more heterogeneous ones.

Shaycroft, Marion F. (*American Institute for Research*) **The correlation between a real dichotomy and an enforced dichotomy.**

PROBLEM: The formula for biserial phi is supposed to give an estimate of the correlation between two dichotomous variables, when one of them is considered to be a true dichotomy and the other, although in dichotomous form, is considered to have a continuous normally distributed variable underlying it. However, analysis of the assumptions underlying the derivation of the biserial phi formula reveals internal inconsistencies which suggest that the formula cannot be expected to give good estimates of correlation. This hypothesis is supported by empirical evidence. For instance, biserial phi can give correlation coefficients much higher than 1.00, even when the conditions which are explicitly assumed by it are met perfectly.

In view of the inadequacy of biserial phi, it is apparent that another formula is needed for a measure of the correlation between a real dichotomy and an artificial dichotomy.

PROCEDURE AND RESULTS: A new formula (called point tetrachoric *r*) for the correlation between a real dichotomy and an enforced dichotomy is derived, and empirical evidence is presented to show that the results obtained by this formula agree with what can be expected on theoretical grounds, while the results obtained for the same data using the biserial phi formula differ greatly from the theoretical value.

CONCLUSIONS: Point tetrachoric *r* should be used in situations for which biserial phi has customarily been recommended.

Sheehan, Joseph G. (*University of California, Los Angeles*) **Rorschach changes during psychotherapy in relation to personality of the therapist.**

PROBLEM: To investigate the extent to which patients undergoing psychotherapy shift in the direction of becoming more like their therapists. The Rorschach was selected, rather than thematic tests or adjustment inventories, because it (*a*) gives more of dynamics and unconscious level, (*b*) is a relatively stable indicator of personality structure, and (*c*) is less susceptible to direct influence from the content of the interviews.

SUBJECTS: (*a*) Twenty-one college-age adults undergoing treatment in the Student Health Service or in the Psychological Clinic at UCLA. (*b*) Three psychiatrists and three clinical psychologists treating these patients.

PROCEDURE: Rorschachs taken at the beginning and at or near the termination of therapy on each patient were scored by the Klopfer method. Protocols on each therapist were obtained. Each variable which shifted in the direction of the therapist's protocol was scored plus; each shift away, minus. An over-all plus or minus was assigned to each patient representing a preponderant shift toward or away from the therapist. A nonparametric procedure, the sign test, was applied to the analysis of these shifts. Supplementary data were obtained through therapist ratings of degree of improvement.

RESULTS: (*a*) Seventeen patients shifted toward their therapists and only four away, a difference which is significant at the 1% level. (*b*) The most striking shifts occurred in the determinants, especially *M*, *m*, *F%*, *FC*, and *Sum C*. (*c*) Two groups of patients

shifted in nearly opposite directions but toward their respective therapists. (*d*) Patients rated by their therapists as more successful showed more shifts, greater "Pygmalion effect." (*e*) The extent of shift appears primarily a function of the therapist's personality, and is relatively independent of his theoretical predilection and *modus operandi*. (*f*) The patient appears to adopt some of the adjustment vices of the therapist as readily as his virtues. One therapist had a consistently dilating effect, while another had a relatively constricting effect.

Sheer, Daniel E. *see* Blades, Clifford

Sherman, Murray H. (*U. S. Naval Hospital, Camp Lejeune, North Carolina*) **A brief, objective test for the measurement of mental impairment.**

The Letter Finding (L-F) Test consists of ten 3 × 5-inch cards on which are drawn designs made up of several letters mixed together. The *S* is asked to name all the letters he can find and his reaction time for each card is taken. This test was administered individually to 50 normals (hospital corpsmen), 30 general medical patients, 39 schizophrenics, 57 neurotics, 15 organics, and 23 mental defectives. The Wechsler-Bellevue Intelligence Scale was also administered to most of these *S*s.

There are two L-F Test scores for each *S*: total number of letters seen and sum of reaction times for all ten cards. Chi-square probabilities indicated that the above groups differed significantly in both of these scores. Moreover, the degree of impairment was found to increase with the severity of mental illness. The schizophrenic group was characterized by extreme variability of test scores. The reliability of the L-F score for 264 neuropsychiatric patients, estimated by the Spearman-Brown formula, is .94.

In order to evaluate the relationship of the L-F scores to intelligence test scores, Pearson *r* coefficients between IQ and L-F score were computed separately for 50 normals, 30 general medical patients, 71 neurotics, and 41 psychotics. It was found that these coefficients were not significantly different from zero for the normals (− .01) or medical patients (+ .21), but were significant for neurotics (+ .49) and psychotics (+ .60). This finding is interpreted to indicate that the L-F score is related to the intellectual impairment of mentally ill patients, but is not related to the intellectual functioning of normals. Tentative norms of test performance have been established. (Slides)

Shriver, Edgar L. (*University of Pittsburgh*) **An artifact of retroactive inhibition.**

This study was designed to test the reliability of a phenomenon reported by McGeoch, and Melton and Irwin. They reported that retroactive inhibition first increased and then decreased as a function of the degree of interpolated learning. The present study controls certain factors which are not functions of the degree of interpolated learning but which seem capable of producing the already described phenomenon. The first is the relationship between the degrees of original learning and interpolated learning. There is evidence to suggest that interference is greatest when they are equal. The decrease in interference found by the experimenters mentioned above thus might have been a function of the relationship of degrees of learning rather than of interpolated learning alone. A latin-square design utilizing three degrees of original learning was used to control for this possibility. The second factor involves an assumption of equality of units at different levels of forgetting made in the traditional measurement of retroactive inhibition. The conditions of the present study were such as to avoid the necessity of making this assumption. This was accomplished by employing a task and interpolated time period such that there were no significant differences in the amounts forgotten by the control groups.

Paired associate materials having an A-B, A-C relationship were employed in the study. One hundred and eight college students were used as *S*s.

The criteria for the degrees of learning were such as to include the range investigated by the experimenters previously mentioned.

The results indicated an increasing amount of retroactive inhibition with increasing amounts of interpolated learning, with no decrease for the highest degree. This result suggests that the decrease in retroactive inhibition reported in studies by McGeoch and Melton and Irwin was spurious, an artifact of the method of measuring retroactive inhibition.

Silverberg, Jacob *see* McMillan, John J.

Simon, George B. (*Human Resources Research Center*) **Evaluation of multiple criterion measures by factor analysis.**

This study (part of dissertation to be submitted to Harvard University) is concerned with an objective procedure for evaluating multiple criterion measures of job performance. One subjob within the airplane and engine mechanics' job area, the preflight of the B-25, was used, and data on a sample of 292 mechanics from seven Air Force bases were obtained. The types of criterion measures used included those derived from the systematic observation of behaviors in the criterion series, supervisor rankings, proficiency test scores, and product measures. Twenty-one independent measures were obtained.

Since all the measures were concerned with the evaluation of the preflight and since the first principal

component contains the maximum amount of common variance of these measures, they may be evaluated by their contribution to the first principal component. Furthermore, successive components which account for a significant portion of the total variance may also be used. Each component is then weighted in proportion to its latent root, and the evaluation of the criterion measures is based on their factor loadings for the first principal component and successive components.

The 21-variable matrix was factor analyzed on the University of Illinois electronic digital computer, which obtained all 21 components. The factor loadings on the first component and the first three components combined were used in evaluating the multiple criterion measures. By this method, the systematic observation of behavior scores was found to be superior to all other measures, the proficiency test and supervisor rankings were next, while the product measures were least valuable. However, the product measures of this study were unreliable and not considered representative of that type of measure.

It was concluded that (*a*) the evaluation procedure was practical and useful, (*b*) the systematic observation of behaviors was an effective and valuable although not the most practical approach, and (*c*) comprehensive proficiency tests based on the criterion behaviors would be desirable.

Singer, Jerome L. (*Franklin D. Roosevelt VA Hospital, Montrose, New York*) **Projected familial attitudes as a function of socioeconomic status and psychopathology.**

PROBLEM: This study supplements Mitchell's pioneer investigation of sociocultural factors affecting familial attitudes reflected in the TAT stories of normals. Schizophrenic patients of contrasting social classes were compared with normals in an attempt to estimate the relative significance of psychopathology and class as determinants of how familial roles are perceived. If schizophrenia is regarded as the outcome of an early disturbance in interpersonal relations, the psychopathological classification should yield most differences; nevertheless sociocultural background should influence some familial attitudes of schizophrenics.

SUBJECTS: Using educational level, occupation, parental occupation, and other social data two groups of 30 hospitalized schizophrenics each were selected as comparable to Mitchell's normal white samples of 40 lower- and 40 middle-class males.

PROCEDURE: Protocols from TAT Cards 1BM, 2, 6BM, and 7BM were analyzed along dimensions employed by Mitchell, including insertion and identification of adult figures, atmosphere of interpersonal relationships, and nature and extent of perceived parental motivation. Chi-square analysis was employed to determine differences in results for the nosological and socioeconomic subgroups.

RESULTS AND CONCLUSIONS: Although certain of Mitchell's findings concerning social class influences were confirmed, most group differences were between schizophrenics and normals. Patients tended to introduce fewer family figures into themes and in general presented a picture of isolation from significant parental figures. Patients perceived both mothers and fathers as more often "rebuking or cold" and less often "comforting" than did normals. Although identifying socially approved goals more frequently, schizophrenics showed significantly more ambivalence about goal attainment and less awareness of means-end procedures. Middle-class *S*s projected more familial motivation into stories and showed more "means-end cognizance" than lower-class groups. Middle-class groups showed more positive relationships toward "father," more ambivalence toward "mother." Although schizophrenics generally manifest disturbed intrafamilial relations, sociocultural backgrounds appear to modify their familial experience patterns. (Slides)

Sinnett, E. Robert. (*Student Counseling Bureau, University of Minnesota*) **An experimental investigation of the Defense Preference Inquiry for the Blacky Pictures.**

PROBLEM: The Defense Preference Inquiry (DPI) is a modification of the Blacky Pictures which yields measures of four defense mechanisms (repression, reaction formation, projection, and regression) for eight conflict areas.

Two problems were investigated. The first of these concerned the relationship of the DPI to two criterion measures, both derived from story content related to conflict areas of the Blacky Pictures. One measure (Story Ranks) entailed the ranking of statements about the criterion stories, each statement corresponding to a defense measured by the DPI. The other approach (Story Memories) utilized the recall of story material depicting a defense mechanism. The second phase of the study dealt with relationships between measures of defense according to degree of remoteness of story content from the original Blacky situation.

SUBJECTS: 117 college males.

PROCEDURE: Three conflicts were studied: oral sadism, oedipal intensity, and sibling rivalry. All *S*s received the complete DPI and the criterion tasks for one of the conflicts.

RESULTS AND CONCLUSIONS: The over-all results demonstrated that the approach exemplified by the DPI has potentialities for further development as a measure of defense. The tool in its present form shows promise as a measure of projection and reaction for-

mation for conflict in the area of oral sadism, and for reaction formation in sibling rivalry.

One implication of the results is that projection is used more with certain conflicts than others. The fact that some relationship was found between defense preference and recall of story content may mean that the defensive process alters conflict material to produce selective perception and forgetting.

There were no differential relationships between the DPI and the criteria in terms of remoteness of story content from the Blacky conflict situation. Thus, it appears that from a measure of defense, one can predict to a variety of situations. (Slides)

Slack, Charles W. (*Princeton University, Guest Scientist at Naval Medical Research Institute*) **Perception and past experience: a mathematical model for Taylor's "range effect."** (Sponsor, Hadley Cantril)

In studies on the one-dimensional tracking of step-function inputs, it was noticed by Searle and Taylor (Searle, L. V., and Taylor, F. V., Studies of tracking behavior: I. Rate and time characteristics of simple corrective movements. *J. exp. Psychol.*, 1948, **38**, 615–631) that *S*s tend to overshoot small steps and undershoot large steps in the stimulus series if the steps are presented in a random manner.

On the average, the error (before correction) in the response to any particular step-function stimulus can be predicted by the following:

$$e_t = [(S_{t-1} - S_t)a_1 + (S_{t-2} - S_t)a_2 + (S_{t-3} - S_t)a_3 \cdot \cdots \cdot + (S_{t-n} - S_t)a_n]A + B$$

where e_t = error (before correction) in response to stimulus at time t, S_t = amplitude of step-function stimulus at time t, a_j = memory weight. It is possible to solve for values of a or to assume an appropriate decreasing function for a_j and fit predicted e to observed e by method of least squares. A and B are functions of speed of presentation of stimuli, individual differences, and other experimental conditions.

Several different experiments of a design previously described by Slack (Slack, C.W ., Learning in simple one-dimensional tracking. *Amer. J. Psychol.*, Jan. 1953, 34–44) were done to test validity, and data fits will be shown. The results are considered as in agreement with Ames' hypothesis that perception is a process involving weighted average of previous experience. (Slides)

Slobin, Morton S., & Dombrose, Lawrence A. (*Veterans Administration, Cleveland, Ohio, and Rocky River Public Schools, Rocky River, Ohio*) **Measurement of impulses, ego, and superego. II. Dynamics of psychopathology.**

PROBLEM: To investigate dynamics of psychopathology within the framework of psychoanalytic theory and its constructs: impulses (id), ego, and superego.

SUBJECTS: Two experimental groups comprising 15 neurotics and 20 paranoid schizophrenics were used. Thirty normal *S*s were controls.

PROCEDURE: Two parts of an original battery, constructed for the measurement of impulses, ego, and superego, were administered. A Picture Titles test, consisting of 12 pictures to be titled, revealed the ego's handling of internal impulse and superego pressures. A Picture Story Completion test, comprising 13 cartoon-stories to be completed from choices provided, revealed the outer world structured by the ego. Both tests were scored in terms of impulse, ego, and superego variables. Psychoanalytic theory provided hypotheses concerning group differences, and t tests of significance were used.

RESULTS: Group test scores were in expected order in 14 of 18 comparisons, and 8 hypotheses were supported beyond the 5% confidence level. General agreement between hypotheses and results occurred at a p beyond 0.1%. Neurotics saw an impulsive outer world, but capitulated to the moralistic evaluations which their egos readily accepted. The psychotics, however, could accept neither their impulses nor supergo pressures, and projected both onto the outer world. Seeing the world as alternately seductive and punitive, they attempted to leave reality or reconstruct it.

CONCLUSIONS: (*a*) The roles played by impulses, ego, and superego in psychopathology were confirmed and extended. (*b*) Expression of impulse and superego demands varies according to strength and acceptability to the ego. (*c*) How the ego handles internal conflicts influences perception of reality. (*d*) When reality is perceived as antagonistic to ego desires, psychotic withdrawal may occur. (*e*) It is suggested that projective test responses be interpreted according to whether the *S* understands his task as one of self-expression or as reaction to an external situation.

Smith, A. Arthur, Malmo, Robert B., & Shagass, Charles. (*Allan Memorial Institute of Psychiatry and McGill University*) **An electromyographic study of listening and talking.**

PROBLEM: To study the EMG concomitants of listening and talking under standard conditions.

SUBJECTS: 22 psychiatric patients and 11 normal controls.

PROCEDURE: The *S*s listened to a faulty sound recording. They were later asked to tell what they remembered of the record, and to report on their feelings while listening. EMG's from five muscle groups were recorded continuously throughout the experiment.

RESULTS: (*a*) During listening, rising gradients of tension were observed in speech muscles, and in extensor muscles of both arms. (*b*) All muscles recorded from showed significant increases in tension with talking. (*c*) Differences between patients and controls were seen only in speech muscles, and then chiefly during questioning about feelings.

CONCLUSIONS: The EMG gradients obtained in the present study were considered in relation to other such gradients which have been observed in various kinds of performance on mental and motor tasks. The hypothesis was advanced that EMG gradients of this kind are related to phenomena of attention.

This investigation was supported by the Medical Research and Development Board, Office of the Surgeon General, Department of the Army, under Contract No. DA-49-007-MD-70. (Slides)

Smith, Donald E. P., & Wood, Roger L. (*University of Michigan*) **Noncognitive personality dimensions as indices of reading improvement at the college level.** (Sponsor, Donald E. P. Smith)

PROBLEM: To test the hypothesis that college students differing in rate of progress toward improved reading will differ also in known noncognitive personality dimensions.

SUBJECTS: 18 college freshmen members of reading improvement classes.

PROCEDURE: Two groups of 9 *S*s were selected on the basis of slow or rapid improvement in rate of comprehension during a six-week period. Rate of progress is defined as the slope of the midpoints between reading rate and rate of comprehension on two series of speeded readings administered weekly. Cattell's 16 P.F. Test, purporting to measure 16 orthogonal personality dimensions, yielded global personality profiles. Tau coefficients of profile similarity were found for each *S* with every other *S*. Cluster analysis by inspection of the resulting matrix indicated groups of similar *S*s. Scholastic aptitude and initial reading skills were inferred from the ACE Psychological Examination, Q and L scores, and the Cooperative Reading Test, V, L, and S scores.

RESULTS: Group means in scholastic aptitude and initial reading skills were virtually identical whereas mean rate of progress differed by 3:1. Group means differed significantly on 4 of 16 dimensions with two others questionable. Tau coefficients varied from .77 to −.66. Cluster analysis yielded four factors (in reality, profile groups) which parallel Eysenck's introversion-extroversion and neurotic dimensions as well as a Lewinian-type rigidity-stability formulation of the senior author. Clusters were significantly differentiated by P.F. 16 scores relating to rigidity-stability syndromes. Traits included strength of will, "free anxiety," overt emotionality, and alertness, among others.

CONCLUSIONS: The hypothesis that college students differing in rate of reading improvement will differ also in noncognitive personality dimensions is confirmed. Results indicate a strong possibility that progress in reading improvement at the college level is predictable from scores on available instruments. The feasibility of techniques of reading therapy based upon the congruence of clusters with stable and neurotic personality typology will be elaborated. (Slides)

Smith, Orville A., & Behan, Richard A. (*Michigan State College*) **Comparison of latency, amplitude, and activity under varying amounts of food or water deprivation.** (Sponsor, M. Ray Denny)

PROBLEM: To compare changes in activity and magnitude of response as indicated by latency and amplitude under different amounts of food or water deprivation.

SUBJECTS: 57 male albino rats.

PROCEDURE: In an especially constructed activity box which utilized a panel-pushing device, the following conditions were studied: (*a*) operant level of activity over a 5-day period, with animals on an ad lib diet; (*b*) acquisition of the panel-pushing habit over an 8-day period, with animals deprived for 22½ hours from satiation; (*c*) performance of the panel-pushing task under different amounts of deprivation using the following three methods of securing deprivation: (*a*) hours of food deprivation from satiation, (*b*) hours of water deprivation from satiation, and (*c*) feeding various percentages of the amount of food required to produce satiation three hours before running.

RESULTS: 1. Decrease in activity over the 5-day operant level period, with subsequent increase in activity during the training period.

2. With respect to method of setting up deprivation the results indicated (*a*) significant decreases in latency over six levels of deprivation from 1 to 48 hours, and (*b*) significant increases in amplitude and activity over six levels of deprivation from 1 to 48 hours.

3. With respect to method (*b*) of setting up deprivation: (*a*) no differences in latency over five levels of deprivation from 1 to 22½ hours, but a decrease in latency from 22½ hours to 48 hours, (*b*) no differences in amplitude or activity over five levels of deprivation from 1 to 22½ hours, but increases in amplitude and activity between 22½ and 48 hours.

4. With respect to method (*c*) of setting up deprivation: (*a*) significant decreases in latency over six levels of deprivation from 0% to 90% of satiation amount, and (*b*) significant increases in amplitude

and activity over six levels of deprivation from 0% to 90% of satiation amount.

The results of this study indicate a serious limitation of the Hullian concept "drive."

Smith, Patricia Cain, & Lem, Charles. (*Cornell University*) **Positive aspects of motivation in repetitive work: effects of lot size upon spacing of voluntary work stoppages.** (Sponsor, Patricia Cain Smith)

W. Baldamus has described "Batch traction" as a relationship between a worker and his task which "mildly urges" an operator to work through or to finish a bundle or lot. His description implies that when traction effects are strongest there will be less frequent voluntary stoppages, and that traction effects may be a function of lot size. We assumed that the number of voluntary work stoppages and the elapsed time between stoppages were criteria of Batch traction. This experiment was designed to determine whether these negatively correlated indexes are a function of lot size.

Two light, highly repetitive operations, filing and straddle-milling, were selected. Both were paid by piece rate. Management permitted nearly unlimited stoppages. Cycle times were similar. Nine operators in the same department were supervised by the same foreman. Lot sizes were varied the same way for both operations over two months. The order of lot sizes was 3,100, 310, 620, and 3,100 pieces. The data for the same lot sizes and for the two operations were combined. The mean frequency of work stoppages for observational period, which was always 105 minutes, varied directly with lot size. The time worked between stops varied inversely with lot size. Differences in both times worked and stoppages deviated from chance at the 1% level for the three lot sizes. Friedman's ranked chi-squared test was used.

CONCLUSION: Batch traction, as indicated by the frequency of work stoppages and by time worked between stops, varies with lot size.

Smith, Paul N. *see* Morsh, Joseph E.

Smith, Robert L. *see* Lacey, John I.

Souerwine, Andrew H., & Conway, Kathryn L. (*Trinity College*) **The effects of role playing upon the social atmosphere of a small group of sixth-grade children.** (Sponsor, Andrew H. Souerwine)

PROBLEM: To show that role playing is effective in improving the social interaction of a small group of sixth-grade boys as shown (*a*) by an increase in the mean social status raw score and (*b*) by an increase in the mean number of choices given by the experimental group when compared with a control group.

SUBJECTS: Sixth-grade boys in a lower-middle-class neighborhood. Experimental group, 14; control group, 13.

PROCEDURE: A sociometric test based on the criterion of best friends was given to both groups four times. Presentations one and two were one week apart in order to determine the reliability of the test. Between administrations two and three, the experimental group experienced four role-playing sessions of 50 minutes each one week apart while the control group did not. Administrations three and four of the test were made after the role-playing sessions to determine the stability of any changes in social interaction that might have occurred. Sociograms were made from the results of the sociometric testing and each of the role-playing sessions was recorded.

RESULTS AND CONCLUSIONS: While neither measurement of social interaction shows a highly significant difference before and after role playing (at the .01 level of confidence), the results clearly show that there is a definite trend toward a greater degree of social interaction in the experimental group as compared with the control group. An analysis of the sociograms indicates that before role playing the lines of communication were scattered and incomplete; after role playing there was a tendency for the linked chains of mutual friendships to become more frequent and to form complicated triangles and clusters. The suggestion is made that, had the role-playing sessions been continued for a longer period of time, the results would indicate higher statistical significance. Suggestions are advanced for future research and practical classroom applications.

This work was started under the direction of Wilbert S. Ray. (Slides)

Spector, Aaron J. (*University of Massachusetts*) **Factors in morale.**

This research has attempted to verify experimentally several hypotheses, derived from reference group theory, about factors affecting morale. The hypotheses were: (*a*) a "relative expectations" hypothesis, of which the (*b*) "relative deprivation" and (*c*) "relative gratification" hypotheses were subhypotheses. In addition, a (*d*) "relative fulfillment" hypothesis was also tested.

Thirty-six groups of four male, nonveteran sophomores formed into pseudomilitary hierarchies. Each group was subjected to one of four experimental treatments: (*a*) low probability of promotion, and actual promotion; (*b*) high probability of promotion, and actual promotion; (*c*) low probability of promotion, and no promotion; (*d*) high probability of promotion, and no promotion.

Data from six questions relevant to the dependent variable were gathered on a self-administered rating

scale. Mean scores of an index of general morale, and of individual items, were obtained for each treatment. The conclusions, and results which suggest them, are as follows:

1. The L:NP *S*s were found to have higher morale than the H:NP's on five of the six questions asked. These results are essentially as predicted by the relative deprivation hypothesis, which may, therefore, be accepted as verified.

2. Similarly, the L:P's responded more favorably than did the H:P's on five of the six questions, which supports the relative gratification hypothesis.

3. Low perceived probability was associated with significantly higher morale in both the promotion and nonpromotion treatments. A significant *F* ratio was yielded by the variable of perceived probability of promotion in the index of general morale. These facts, together with the verification of the relative deprivation and gratification hypotheses, militate toward acceptance of the more general relative expectations hypothesis.

4. In every analysis made, the people who were promoted responded more favorably than those who were not promoted, which is what the relative fulfillment hypothesis would lead one to expect.

Spiegel, Joseph *see* Aikman, Louis

Spilka, B. *see* Cloonan, T. F.

Spilka, B. (*Human Resources Research Center, Randolph AFB*) **A study of relationships existing between certain aspects of personality and some vocal effects of delayed speech feedback.**

An investigation was conducted to determine relationships which might obtain between certain aspects of personality and some vocal effects of delayed speech feedback. The approach which was employed in the present study was basically systematic in nature, and was designed to show how a higher-level theoretical position might be taken with regard to relationships existing between speech, voice, and personality. Delayed speech feedback was regarded as producing an experimental stress situation, the focal point of which is on the speaking process.

Records of vocal rate-duration and intensity voice variables were secured for 129 *S*s who read a standard reading passage under conditions of synchronous and delayed speech feedback. The amount of change occurring in these voice variables due to delayed speech feedback was related by correlational means to a number of objective personality measures which were chosen on the basis of the theoretical position developed. Forty-eight of these 129 *S*s also participated in a second part of this investigation, which related the voice-variable-changes studies to various measures of autokinesis.

The personality traits investigated have been termed: self-concept adequacy and stability, rigidity, suggestibility, paranoid tendencies, and schizoid tendencies.

Within the limitations of the research, results and conclusions are presented which indicate that relatively consistent and significant relationships do exist between the personality aspects of self-concept adequacy and stability, rigidity, paranoid tendencies, and schizoid tendencies and changes in vocal intensity variation due to the delayed feedback of a subject's speech. No relationship was found between the measures of autokinetic suggestibility and any of the voice-variable changes which occured.

Spragg, S. D. S. *see* Andreas, B. G., and Green, R. F.

Stamm, John S. (*California Institute of Technology*) **Control of hoarding activity in rats by the median cerebral cortex.**

Previous investigations suggested that the median surface of the cerebral cortex performs an important function in the control of hoarding of the rat. In order to apply lesions to this surface an operational technique was developed which avoided excessive bleeding from the sagittal sinus. Fifteen rats in the "median group" received bilateral lesions along the median cortical surfaces and 8 rats in the "lateral group" received bilateral lesions along the dorsolateral cortical surfaces. The number of pellets collected by rats during 20-minute hoarding trials were determined before and after the operations.

The mean size of the lesions was 13.7% and 13.3% of the neocortex for the lateral and median groups, respectively. The mean hoarding scores for the former group were 35.8 pellets preoperatively and 33.6 pellets postoperatively. Corresponding scores for the median group were 34.3 pellets and 8.65 pellets. Differences between pre- and postoperative scores for each rat in this group were significant beyond the 1% level of confidence.

A "deficit index," i.e., the ratio of reduction of hoarding to preoperative hoarding, was computed for each rat in the median group. This index ranged between 0.38 and 1.00 with a mean of 0.73. This index was related to the extent of the median cortical lesions (lengths of lesions along the midline of the brain) by a product-moment correlation coefficient of 0.874. Comparisons of the two groups of rats during postoperative trials showed no important differences on measures of: day of onset of hoarding, daily latency, and speed of hoarding.

It was concluded that the effect of small lesions of the median cortical surface was to reduce greatly the

amount of hoarding, without influencing other measures of hoarding activity. This restricted cortical area therefore seems to control hoarding activity in the rat. (Slides)

Stampfl, Thomas G. (*Loyola University*) **The effect of frequency of repetition on the retention of auditory material presented during sleep.** (Sponsor, Frank J. Kobler)

If learning during sleep is possible, what relationship exists between frequency of repetition of material presented during sleep and the retention of this material?

Six male sophomore students of a medical fraternity were used as *S*s. Three of the six *S*s received sleep repetitions of a nonsense-syllable list one to three hours after retiring to bed. All six *S*s learned this list the following morning under similar conditions to one correct anticipation of the list. The other three *S*s received the same number of sleep repetitions the following night of a nonsense-syllable list comparable in associational strength to the first list. All six subjects learned the list the following morning under the same conditions as for the first list. The frequencies of repetition for the six *S*s were 4, 32, 16, and 8 respectively; thus the procedure as described above was carried out a total of four times in all. All six *S*s learned the same two lists for each frequency of repetition.

The *E* observed the *S*s while they were asleep and asked them the question, "Are you awake?" before presenting the recorded material through the under-the-pillow speaker. This was preceded by a 10-min. recording of music. In addition, all subjects received three practice sessions at learning nonsense syllables, and the *E* made three practice entrances into each subject's room on three different nights and played the same 10-min. recording of music.

Saving in learning the lists after sleep repetitions was evident at only one frequency of repetition, that for four repetitions of the material where a difference of nine trials in favor of sleep repetitions resulted. A t score of .54 was calculated for this difference, and for correlated small samples would occur 60 times out of a 100 by chance alone.

The results of this study indicate that the "sleep learning" hypothesis is uncertain and improbable.

Staudt, Virginia, & Zubin, Joseph. (*New York State Psychiatric Institute, Columbia University*) **Evaluation of outcome of treatment in the somatotherapies.**

The purpose of this study is to examine the available data on the outcome of the shock therapies and psychosurgery in order to determine the effectiveness of these therapies. Three types of data have been analyzed: (*a*) outcome of nonspecific therapies before the introduction of the shock therapies ("spontaneous" outcome), (*b*) outcome in the shock therapies, (*c*) outcome of cases treated with nonspecific therapies during the shock era, and (*d*) results of treated and matched control patients. The data for specific diagnostic groups will be treated separately.

Analyses of these data indicate that the following minimal information about the patients is essential if adequate comparisons are to be made: age at onset of illness, age at time of treatment, type of illness, type of treatment, and duration of follow-up. Unfortunately, very few studies satisfy these criteria.

The results for the outcome of nonspecific therapies indicate that the early studies in which groups heterogeneous with regard to age, functional or organic factors, etc., were used gave an improvement rate of 25% at the end of a five-year follow-up. For more homogeneous groups, schizophrenics for example, the rate was 33%, approximately. The variability from study to study indicated, however, that not much trust could be placed in these results as criteria for evaluating outcome of specific therapies.

When the data for somatically treated patients are examined, the immediate outcome in the treated group is invariably superior to that in the untreated group. For the few studies in which five-year follow-up results are available, no advantage is found for the somatically treated patients. (Slides)

Stebbins, William C., Brady, Joseph V., & Hunt, Howard F. (*Army Medical Service Graduate School and University of Chicago*) **The effect of electroconvulsive shock (ECS) on a conditioned emotional response: the effect of additional ECS convulsions upon the reappearance of the response.** (Sponsor, Howard F. Hunt)

Previous research has demonstrated that a series of 21 ECS can diminish or virtually eliminate a conditioned emotional response (CER) consisting of a cessation of lever pressing in a Skinner box upon presentation of a clicking noise. The response reappears within 30 days after ECS, however. The present experiment is designed to determine whether additional "prophylactic" ECS following the initial 21 ECS will prevent the reappearance of the response 30 days later.

Thirty male albino rats were trained in lever pressing and then received 8 emotional conditioning trials, each trial consisting of a 3-minute presentation of a clicking noise terminated by two painful shocks to the feet. Then, 18 animals received 21 ECS, 3 per day for 7 days; 12 control animals received pseudo-ECS.

Three days after the last ECS, all animals were tested for retention of the CER. Then, 12 of the ECS animals and 6 of the control animals received

15 "prophylactic" ECS treatments, one every other day for 30 days. The remaining 12 animals received additional pseudo-ECS. Three days after completion of this second ECS series, all animals were again tested for retention of the CER.

After the initial series of 21 ECS, only the control animals showed complete retention of the CER (i.e., defecated and stopped lever pressing). During the second retention test following "prophylactic" ECS, the untreated control animals, the control animals receiving *only* the "prophylactic" ECS, and the ECS animals receiving *only* the initial 21 ECS, showed the CER. In contrast, the ECS animals which had received both the initial 21 ECS and the additional "prophylactic" ECS did not show the CER.

The additional "prophylactic" ECS treatment appears to have prevented the reappearance of the CER in the treated animals. But the same amount and concentration of "prophylactic" ECS given alone, without previous convulsive treatment does not appear sufficient to attenuate the CER. (Slides)

Stern, George G. (*University of Chicago*) **Personality-centered research and psychological unification.**

Both Klein and Frenkel-Brunswik have suggested limitations of approaches focused upon isolated factors of motivation and perception, proposing instead investigations of generalized adaptive states which maintain the psychological integrity of the individual. Such research would lead, in their view, to demonstration of pervasive consistencies between emotional, social, perceptual, and cognitive behaviors, facilitating conceptual unification of these areas.

The present study was designed to explore the extent of such psychological cohesiveness. Three syndromes were proposed, based on theoretically distinguishable global personality configurations related to differential child-rearing practices. The S (stereotypy) pattern is characterized essentially by predominant acceptance of immanent authority, and is analogous to the "authoritarian personality." The N (nonstereotypy) pattern is antipodal to this, while the R (rational) pattern is elaborated in terms of parental detachment and primary cathection of ideas rather than persons.

Of 400 1951 college entrants, 122 were identified by their scores on a brief inventory as representative of these typologies and also equated for intelligence. Replication was obtained with 144 *Ss* similarly drawn in 1952.

Independent blind analyses of projective data confirmed initial hypotheses regarding personality dynamics of the three types, beyond the .001 level. A wide range of consistent and systematic differences was found between these groups in manifest emotional adjustment, motivations, interests, ideologies, vocational preferences, family background, selective academic performances, etc., generally significant at the .01 level and beyond. However, attempts to establish continuity with presumably related formal perceptual tasks, such as Thurstone's closure factors, were unsuccessful.

These data suggest a distinction between functional perceptual systems, represented in social interactions, and formal perceptual systems reflected in morphological properties of the organism. The former share many properties of contemporary personality constructs, and seem susceptible to integration with such theory. The latter appear more closely related to morphologically oriented behavior models. (Slides)

Sternberg, Carl. (*Queens College*) **Differences in measured interests, values, and personality among college students majoring in nine subject areas.**

PROBLEM: The purpose of the study was to determine the nature and extent of differences in measured interests, values, and personality and patterns (factors) of those attributes among students specializing in nine fields of study in college.

PROCEDURE: The Kuder Preference Record, the Allport-Vernon Study of Values, and the MMPI were administered to 270 students, 30 from each major field.

The data were factor analyzed by the Thurstone centroid method. Multiple regression equations were used to select predictor variables. These were used to convert raw scores of all *Ss* into factor scores.

The nine groups were compared on raw scores and factor scores by F and t tests.

RESULTS: There were significant differences among the groups on 17 of the 24 test scales and 6 of the 7 factors extracted in the analysis. The MMPI was least effective in discriminating among the groups.

Positive significant correlations were found between aesthetic attitudes and interests and tendencies toward maladjustment. Negative significant correlations were found between scientific interests and attitudes and tendencies toward deviant behavior.

Three factors were new, i.e., had not been previously reported in the literature. Despite differences in study populations and tests used, four factors in the present study closely resembled factors in two earlier factor analysis studies and trait clusters in other studies.

CONCLUSIONS: The study results suggest that there are significant differences in attitudes, interests, and tendencies toward maladjustment among students majoring in different subjects in college. The sharpest differences are between students majoring in music and English and those specializing in scientific fields.

There are implications for personality theory in the factor compositions and in the distribution of factor scores among the different groups of students.

Stevenson, Harold W. (*University of Texas*) **Latent learning in children.**

PROBLEM: Two questions were asked: (*a*) Does latent learning ability increase during early childhood? (*b*) Does latent learning depend upon the stimulus conditions under which the child performs? SUBJECTS AND PROCEDURE: A group of 135 children from ages three through six was used. Each child was tested under one of three experimental conditions. The ostensible task was to recover a reward from a locked box. To do this, the child had to find a key in a second box which contained several objects irrelevant to his task. There were two sets of goal boxes. One of the irrelevant objects in each set of boxes was designated the test object. The placement of the key was varied to create three stimulus conditions. In Cond. 1, the key was on the test object; in Cond. 2, it was under the test object; in Cond. 3, it was in the test object. After three training trials with each set of goal boxes, the child was shown a test object and asked to find one just like it. Evidence for latent learning was found if the child went to the correct box.

RESULTS: Latent learning as tested appears to be a developmental process, for the tendency for successful performance to increase with rising chronological age was found to be statistically significant ($p < .001$). The proportion of six-year-old children in each condition who chose the box was significantly greater than chance, and, in Cond. 3, the four- and five-year-old children also chose the correct box to a significant degree. The effect of stimulus conditions led to a significant difference between Cond. 2 and 3 ($p < .001$). The difference was insignificant between Cond. 1 and 2, and approached significance between Cond. 2 and 3 ($p < .05$).

Stice, Glen F., & Cattell, Raymond B. (*University of Illinois*) **Personality differences found in small-group leaders selected by four independent criteria of leadership.**

In 34 groups of ten men each, interacting in some 22 different experimental situations over a period of nine hours, 90 leaders were recognized, using four independent criteria of leadership. These were: (*a*) problem solvers: the 3 members in each group most frequently noted by two observers to influence group achievement; (*b*) effective leaders: the members agreed upon by two observers as having been the most influential person in the group on at least one of 22 possible occasions; (*c*) sociometrically remembered leaders: members designated by their peers at the end of the ninth hour of interaction as having shown most leadership; (*d*) elected leaders: members who were elected at least once.

The 16 Personality Factor test was given to each group member before the group meetings. Mean scores for leaders and for nonleaders were computed using each of these criteria. The significance of the differences between the mean score for leaders and nonleaders, and for leaders selected by the various criteria, were tested for each of the 16 personality factors. By all four criteria leaders were higher than nonleaders in emotional maturity, dominance, character integration, adventurousness, polished fastidiousness, and will control and lower on both free and somatic anxiety. These differences were significant beyond the 5% level for all four leadership measures for the will control factor, and three of the four criteria for the adventurousness and free anxiety factors. Ten differences were significant at the 1% level on seven factors for various criteria.

In comparing differences between leaders, those selected as "problem solvers" were significantly more intelligent, while elected leaders were very significantly more surgent and tended to be more gregariously oriented than those selected by other devices.

Stotsky, Bernard A. *see* Hiler, E. Wesley

Strupp, Hans H., & Hausman, Howard J. (*Human Factors Operations Research Laboratories, Air Research and Development Command*) **Some correlates of group productivity.**

PROBLEM: To investigate the relationships of selected group variables to a measure of group productivity. It was hypothesized that a group is productive to the extent that its appointed leader is able to structure the behavior and attitudes of his subordinates in ways which facilitate the achievement of the group goal.

This work is part of a larger program concerned with the productivity of aircraft maintenance crews in the U. S. Air Force.

SUBJECTS: 99 aircraft maintenance mechanics, organized into 9 crews, and their supervisors at Bolling Air Force Base.

PROCEDURE: Mechanics assigned to the above crews completed (*a*) an inventory of job-related attitudes (job satisfaction, crew-chief acceptance, crew morale, and fairness of the organization), (*b*) a sociometric questionnaire calling for the nomination or rejection of fellow crew members on 12 choice criteria, and (*c*) the California F-Scale. A measure of the *Ss*' technical competence was obtained independently. Supervisors rated the job performance of subordinates. A criterion of productivity was defined by asking three management supervisors to rank-order the crews.

RESULTS: Group variables which were found to be highly correlated with the criterion of productivity included (*a*) attitudinal measures, such as acceptance of the supervisor by subordinates, crew morale, mechanics' perception of crew productivity, and (*b*) sociometric measures indicating attractiveness of crew and crew chief to members of the crew as well as to nonmembers. A measure of the supervisor's ability to estimate subordinates' technical competence ("perceptual objectivity") also showed significant relationships to the criterion and crew variables. F-Scale scores were unrelated to any of the variables investigated. By-products were (*a*) several highly reliable scales of job-related attitudes and (*b*) a factor analysis of 12 sociometric items, yielding a large general and two group factors.

CONCLUSION: The findings strongly point to the supervisor's role behavior as a crucial factor in the productivity of these crews.

Sulzer, Richard L., & Zener, Karl. (*Duke University*) **A quantitative analysis of relations between stimulus determinants and sensitivity of the visual perception of parallelness.**

PROBLEM: This investigation constitutes part of a wider quantitative specification of stimulus determinants of visual spatial relations. The present experiment attempts determinations of relationships between sensitivity of perception of parallelness between two lines and the stimulus dimensions of line length, distance of line separation, and angular orientation.

METHOD: Centered in a homogeneous bright circular field, 30 in. distant and subtending a 30° visual angle, are presented two narrow black lines of equal length. By turning a smooth driving disc the subject rotates one line around its center to a position of apparent parallelness to the other, fixed, line. Settings are recorded as angular deviations between objectively correct and obtained tilts of the adjustable line.

Standard deviations of the distributions of 40 adjustments each, obtained under the various stimulus conditions, were computed for each of five subjects. Combinations of five lengths of line ($\frac{1}{8}$ to 2 in.) and nine interline distances ($\frac{1}{32}$ to 4 in.) were used with lines in both vertical and horizontal orientations. Intermediate orientations were tested with a middle line length and four interline distances.

RESULTS AND DISCUSSION: Variability (*SD*) of settings is taken as an inverse estimate of perceptual sensitivity. Variability of angular setting is a linear function of the square root of interline distance, and of reciprocal of line length. Variability is minimal with horizontal orientation, next least with vertical, and is maximal with oblique orientation. Constant errors are less determinate in relation to stimulus conditions.

The results suggest that systematic determinations of the functional relationships between quantifiable stimulus conditions and variability of settings with a representative sample of simple spatial relationships may provide significant data for the analysis of more complex perceptual organizations. (Slides)

Super, Donald E. *see* Levi, Mario

Sutter, Everett, L., Kell, Bill L., & McGuire, Carson. (*Pilot Training Research Laboratory, Goodfellow AFB, San Angelo, and the University of Texas*) **Some audio-mirror effects of TAT stories upon self-awareness.**

In previous investigations, an audio-mirror effect occurred when subjects responded to a self-model evoked by playing back previous sequences of behavior on a sound recorder. The experiment was designed to test the proposition that, if *S*s listened to recordings of own stories told to ten Murray TAT cards, they would perceive and rate themselves more nearly as other people would evaluate them. The prediction of heightened self-awareness arose out of experiences in client-centered counseling where reflection elicited client assessments in areas of behavior previously denied to awareness.

The *S*s were 30 graduate students, 10 each in educational psychology, history, and mathematics to represent different degrees of sophistication about human behavior. Ten other graduate students in educational psychology formed a control group.

A rating instrument with 20 seven-point scales was devised for rapid assessment of personality attributes relevant to the self-concept in terms familiar to all *S*s. Experimental *S*s rated themselves prior to telling stories to ten TAT cards. Then three judges independently evaluated every *S* on the basis of recorded responses. Two weeks after the pretest, experimental *S*s rated themselves again as a posttest after listening to playbacks of their own TAT responses. Control *S*s completed pretests and posttests without an intervening audio-mirror experience.

Discrepancy scores for pretests and posttests of each *S* were secured by comparison with the three judges' ratings. Analysis of variance demonstrated a significant difference between pretests and posttests, the latter more nearly approximating judges' assessments. The mathematics subsample made the largest shift and the more sophisticated educational psychology students the least. No significant differences among judges was found. The control group did not change from pretest to posttest.

The experiment indicated that the audio-mirror experience could be employed to bring repressed material to conscious awareness, especially with unsophisticated *S*s. (Slides)

Tait, Arthur T. *see* Segel, David

Taylor, Mahlon V., Jr., & Altman, James W. (*American Institute for Research*) **Evaluation of scientific research through the report.**

PROBLEM: Development of a technique for evaluating scientific research through research reports.

SUBJECTS: For nominating research reports to be evaluated: physicists, chemists, and engineers listed in *American Men of Science* and having other specified qualifications ($N = 149$); for evaluating nominated reports: graduate physicists, chemists, and engineers with specified training and experience ($N = 157$).

PROCEDURE: Each nominator chose one published report of especially effective research and one of relatively mediocre research, both in his field of specialization. A critical behavior checklist was developed from critical incidents collected in a previous study. Each evaluator used the checklist in evaluating two nominated reports in his field of specialization and rated each report on a five-point scale. One of the reports had been nominated as especially effective and one as relatively mediocre, but the evaluator was not informed of this.

RESULTS: For 288 evaluations item validities (phi coefficients) against nominators' judgments ranged from $-.09$ to .28 with a median of .07. Effective behavior items were checked as occurring and being important to the research much more frequently (15,679) than the ineffective behavior items (1,684). Evaluators' ratings had a point biserial r of .36 with nominators' judgments ($N = 287$). Two independent sets of ratings for 85 reports had a product-moment r of .35 with each other.

CONCLUSIONS: (*a*) There is a conspicuous lack of agreement among judgments of qualified physical scientists on the quality of reported research. (*b*) The critical behavior checklist technique for evaluating research through the report appears promising. Further investigation may prove it to be more valid and reliable than individual over-all judgments of research excellence.

The rating scale and sample items (with obtained validities) will be presented and discussed.

Teicher, Arthur. (*VA Regional Office, Newark, and New York University*) **The effect of electroconvulsive therapy on the visual perceptual reactions of schizophrenic patients.** (Sponsor, Bernard N. Kalinkowitz)

PROBLEM: This study was initiated to determine whether perceptual changes with regard to emotional and nonemotional stimulus words took place during and after ECT.

SUBJECTS: 4 male, schizophrenic veteran groups, 12 preshock patients, 12 patients with less than six treatments, 15 patients with more than six treatments, 17 postshock patients, equated for age, education, concomitant psychological therapies, and previous shock treatment.

PROCEDURE: A series of emotional and nonemotional words was presented by means of an electronic tachistoscope to all *S*s. The words were equated for size and frequency of use. The *S*'s perceptual threshold was predetermined. Starting six graded steps of illumination below *S*'s threshold, each word was presented at a given level of illumination. Illumination was increased one unit until recognition occurred. Exposure was constant at 1/50 of a second. The *S*'s reaction time was recorded by a chronoscope and voice key. The t test and analysis of variance techniques were employed to evaluate the differential group differences in nine threshold, time, and qualitative reaction variables.

RESULTS: The preshock group failed to differentiate significantly between emotional and nonemotional words. The minimum shock group (under 6 ECT) showed a slightly significant differential response in threshold and time variables. Nonemotional words were recognized in less trials. The maximum shock group tended to recognize emotional words in less trials. The postshock group showed a marked differential response on all variables. The four groups were more different than similar to each other on measures of threshold and level of activity.

The sharp differential in the postshock group in which nonemotional stimuli are recognized at significantly lower thresholds suggests that the postshock group uses mechanisms of repression with emotional stimuli. The leveling of distinctions between emotional and nonemotional stimuli in the preshock group suggests a systematic disturbance in the use of repression.

Teichner, Warren H., & Wehrkamp, Robert F. (*QM Climatic Research Laboratory*) **Visual-motor performance as a function of short-duration ambient temperature.**

PROBLEM: To determine experimentally whether low ambient temperatures produce decrements in psychomotor performance and if so whether the amount of decrement is similar to that shown to be produced by high ambient temperatures.

SUBJECTS: 23 soldiers having no previous experience with psychomotor experimentation.

PROCEDURE: Each *S*, lightly clad, sat quietly in a constant temperature chamber for 20 min. prior to being tested. He was then given 15 trials on the rotor-pursuit, each lasting 20 sec. with an interval of 10 sec. between trials. This procedure was repeated once daily for five successive days. *S*s were

assigned randomly to temperature conditions of 55°, 70°, 85°, or 100° F.

RESULTS: Variance-analysis procedures showed highly significant decrements in time on target scores for temperatures higher and lower than an optimum of 70° F. Plots of time on target vs. temperature indicate that performance falls off faster in the cold than in the heat. These results were found to be consistent over all stages of practice, no interactions of the temperature effect with either number of days of practice or with portion of the daily practice period being obtained.

CONCLUSIONS: It is concluded that some complex quantitative relationship exists between rotor-pursuit performance and ambient temperature, but that it is possible to express this as two separate relationships, one for the cold and one for the heat. (Slides)

Teuber, Hans-Lukas, & Mishkin, Mortimer. (*New York University, Bellevue Medical Center*) **Judgment of visual vertical after frontal lobe injury.**

PROBLEM: In searching for behavioral deficits characteristic of frontal lobe damage, we asked men with frontal lesions to judge the visual vertical under various conditions of body tilt (Aubert's experiment). We assumed that this task which involves both visual and postural orientation might disclose greater and more specific deficits than those revealed in previous work (employing essentially unimodal tasks).

SUBJECTS: 20 men with penetrating gunshot wounds of anterior third of brain ("frontal"); 20 with penetrations of posterior third; 20 controls with peripheral nerve wounds. All 60 were injured in action 7–10 years before testing.

PROCEDURES: In the main experiment (Aubert), *S* viewed a luminous line, in his fronto-parallel plane, in a dark room. The *E* set the line alternately 28° to left and right of true vertical and *S* adjusted the line to his subjective vertical. Six judgments were obtained with *S* erect in a tilting chair; six with chair inclined 28° to left; six with chair 28° to right. In supplementary experiments, the same *S*s performed a "visual" and a "postural" task: (*a*) with body erect they set a black thread to vertical, against an obliquely striped field; (*b*) with eyes blindfolded, they brought themselves in the chair up to subjective vertical, after varying periods of prolonged tilt.

RESULTS: In the Aubert experiment, all groups tended to set the line to right of true vertical with body tilts to left, and conversely. The "frontal" group made significantly larger errors than posterior and control groups, who did not differ significantly from each other. No group differences appeared when *S*'s body was erect. The supplementary experiments failed to yield differential results. An abnormal performance of the "frontal" group was thus elicited only in the situation which involved both visual and postural orientation. (Slides)

Thaler, Margaret B., & Frost, Laurence L. (*Division of Psychosomatic Medicine, University of Colorado School of Medicine*) **Physiological and psychological correlates of aging.**

One hundred patients, ranging in age from 60 to 101 years with a mean age of 73 years and meeting a pre-established criterion of normalcy, were selected from a group of patients being studied under a USPHS grant to determine the physiological and psychological aspects of aging. Each *S* was given the following: a physical and neurological examination, a mental status examination, a medical history, laboratory studies including complete blood counts, differential, nonprotein nitrogen, and urinalysis, an electroencephalogram, a determination of CFF. A social history was obtained, and the following psychological tests were administered: the Rorschach, the Vocabulary, Information, Block Design and Digit Symbol Subtests of the Wechsler-Bellevue, Form I, the Weigl Color-Form Sorting test, and the Successive Eights.

Normative values were established for the objective psychometrics, i.e., the Wechsler, Weigl, and Successive Eights. These data were correlated with the Gibbs classification of the electroencephalogram of each *S*. The five major scoring dimensions of the Rorschach likewise were correlated with the same electroencephalographic classifications.

Conclusions indicate that severe diffuse EEG disturbances are incompatible with facility in communication, abstractness, and clarity of perception. Focal changes are frequent in the aged and are not indicative of psychological decrement. Normal EEG records are not indicative of normal central nervous system functioning hence do not preclude psychological deficit. (Slides)

Thompson, Clare W., & MacDonald, Martha W. (*VA Hospital, Palo Alto, California*) **Personality characteristics of residents in psychiatry.** (Sponsor, Clare W. Thompson)

This paper will report the results of the first step of a twofold project. This first step consists of determining whether or not residents in psychiatry show unique personality characteristics. Step two will consist of the attempt to relate these personality characteristics to proficiency in psychiatry.

The experimental sample collected for the purpose of this study consisted of 60 residents in psychiatry. This includes all male psychiatrists in residency training and all applicants who were seriously considered for residencies at a large teaching hospital

during a five-year period. The control groups consisted of (*a*) 100 randomly selected normal *S*s as reported in the literature by Cass and McReynolds and (*b*) 60 fourth-year medical students as reported in the literature by Molish, Molish, and Thomas. Personality characteristics were evaluated by means of the Rorschach test. Intergroup comparisons were made for each of the conventional Rorschach variables, both with regard to their absolute number and with regard to their percentages. Various intragroup comparisons were also made for the experimental sample further to clarify the intergroup differences found. On the basis of accepted methods of Rorschach interpretation, tentative statements are made about the personality of the "typical" psychiatric resident and of the extent of variability of personality patterns among residents.

This first step has indicated that personality characteristics can be identified sufficiently well to justify the further step of relating these to proficiency in psychiatry. The group of psychiatric residents in general resembles the group of medical students more than the group of randomly selected normals, especially in general productivity and in responsiveness to particular blot areas. Certain differences between the psychiatric residents and the medical students seem to be related to their choice of psychiatry as a specialty.

Thorndike, Robert L., *see* Hagen, Elizabeth P.

Thorndike, Robert L., & Hagen, Elizabeth P. (*Teachers College, Columbia University*) **Illiterates in the Navy in World War II.**

Under ONR Contract No. Nonr-644(00), a study has been made to determine how well illiterates performed in Navy duty assignments during World War II, the kinds of assignments in which they were successful, and the factors in their background useful as indicators of probable success.

Three groups of men were used in the study: (*a*) 1,026 white males given special literacy training at Camp Peary, Virginia, (*b*) 1,021 control cases entering the Navy at the same time and from the same places as the illiterates, and (*c*) 999 men of marginal ability who received no special literacy training.

The basic data were obtained from personal and medical records from the files of the Naval Records Management Center.

When background factors and test scores are studied in relation to the illiterates' ability to complete successfully the program of training at Camp Peary, it is found that a substantial prediction can be achieved from a number of measures of educational background, civilian occupational experience, literacy, and nonverbal intelligence. These same factors predict success in subsequent Navy assignments, though much less effectively. The multiple correlation of these variables with ability to complete the special training program was .68 and with success in duty assignment, .35.

Comparison of the illiterates with the other groups on their effectiveness in duty assignments brought out a number of differences. The illiterates tended to receive lower proficiency ratings, fewer promotions, and more disciplinary actions than the controls. They were somewhat more likely to receive a medical discharge or an other than honorable type of discharge, to incur a venereal infection, or to make a Veterans Administration disability claim. However, in hospitalization, amount of overseas or sea duty, total length of service, and longest and average tour of duty, there was very little difference among the three groups.

Tiffin, Joseph *see* Winick, Darvin

Treat, Wolcott C. (*San Diego State College*) **The motivational effect of an ascending grading scale.**

PROBLEM: The incentive value of any particular grading scale, while often discussed anecdotally, has lacked experimental evidence. Assuming motivation to be inferred from superior achievement when extramotivational factors are reasonably controlled, this study tested the hypothesis that an ascending grading scale, from which failing grades are gradually eliminated, generates greater motivation than a fixed, normal curve grading scale.

SUBJECTS: 118 undergraduates comprising, in Exp. I, 58 in two sections of general psychology (29 in control section matched with 29 in experimental section) and, in Exp. II, 60 in two sections of applied psychology (30 in experimental section matched with 30 in control section).

PROCEDURE: Matching was for score on first test, sex, color, age, and scholastic aptitude. In Exp. I (control-experimental instructional sequence) 14 weekly 20-item tests were administered. In Exp. II (experimental-control instructional sequence) 7 bi-weekly 25-item tests were administered. Tests were returned to control sections graded by an unvarying normal curve scale and to experimental sections graded by an ascending scale from which failing grades were gradually eliminated. Criterion of achievement in each experiment was a 200-item final examination appropriate to course content.

RESULTS: Achievement of experimental sections was superior to that of control sections. The *t* ratio of the mean difference in Exp. I was 4.802; in Exp. II, 3.953. In both cases the .001 level of confidence was

exceeded. In the succession of tests cumulative differences showed increasing significance. In both experimental sections, those lowest in rank on the first test improved at the largest rate.

CONCLUSIONS: Grading students by the normal curve encourages both persistence in success and persistence in failure. An ascending grading scale increases student motivation largely by reducing frustration. (Slides)

Tucker, Ledyard R. (*Princeton University*) **An objective determination of simple structure in factor analysis.**

This research was supported by the Office of Naval Research, United States Navy, under Contract No. N6onr-270-20 with Princeton University.

The determination of a simple structure in factor analysis by the present approach involves finding a number of "linear constellations." Definition of each such linear constellation involves a subset of variables whose common factor vectors are located approximately in a linear space of lower dimensionality than that of the common factor space for the entire battery of variables. A coordinate hyperplane of a simple structure solution is the space of a linear constellation with dimensionality one less than the dimensionality of the common factor space. The normal to this hyperplane is the smallest principal axis of the subset of variables constituting the linear constellation.

In the procedure for finding a linear constellation with dimensionality one less than the dimensionality of the common factor space, a successive approximation method is used involving trial subsets of variables. Each cycle in this procedure involves the following steps. (*a*) Start with a trial subset of variables. An initial subset may be taken as variables which correlate low with some given variable. The trial subsets for a second cycle and subsequent cycles are given by the preceding cycle of computations. (*b*) Find the two smallest principal axes of the trial subset of variables. (*c*) Scan the space of the two smallest principal axes by a routine computing procedure for the location of a radial band of specified width which contains the greatest number of variables. (*d*) List the variables in the band located in step *c* as the next trial subset and initiate a new cycle with step *a*.

When the subset of variables does not change, the linear constellation has been found and the smallest principal axis is the normal to the simple structure hyperplane.

The procedure has been tried on several factorial studies reported in the literature. Results obtained will be presented. (Slides)

Tuckman, Jacob *see* Aikman, Louis

Tuckman, Jacob, & Lorge, Irving. (*Teachers College, Columbia University*) **When does old age begin and a worker become old?**

SUBJECTS: Four groups differing in age, educational background, occupation, and socioeconomic status: (*a*) 50 undergraduate students, (*b*) 304 graduate students, (*c*) 50 middle-age nonprofessional workers and their wives (parents of the undergraduate students), average age of 50 years, and (*d*) 88 older age retired individuals, average age of 75 years, residing in their own homes or in an institution for the aged.

PROCEDURE: Two questions, "In your opinion when does old age begin" and "In your opinion when is a worker old," were included, ostensibly as part of the identifying information about the respondent, in two questionnaires designed to measure attitudes toward old people and toward the older worker, respectively.

RESULTS: The findings indicate that 100% of undergraduate students and 95% of middle-age respondents, but that only slightly more than 50% of graduate students and older age respondents believe old age to begin and a worker to become old at a specific chronological age, generally 60 or 65 years. For each of the four groups, as the age of the respondent increases, there is a tendency for the age specified to be set higher.

For respondents who use criteria of aging other than that of chronological age, graduate students believe that the type of work plays an important part in determining when a worker becomes old while older age respondents deny that old age ever begins or that a worker ever becomes old.

CONCLUSIONS: The tendency to consider old age to begin or a worker to become old at a specified chronological age is probably a reflection of current practice in business and industry to retire women at age 60 and men at age 65. (Slides)

Tye, V. M. *see* Kaplan, Harry, and Parrish, J. A.

Tyler, Leona E. (*University of Oregon*) **Changes in children's scores on Primary Mental Abilities Tests over a three-year period.**

The question with which this study was concerned is as follows: Are patterns of primary mental abilities identified in the same *Ss* by means of equivalent tests at the first and fourth grade levels similar enough so that prediction of the later from the earlier scores is feasible?

Eighty-three first grade children took the SRA Primary Mental Abilities Tests, Age 5–7, during the school years 1946–47 and 1947–48, and the SRA Primary Mental Abilities Tests, Age 7–11, when they were in fourth grade three years later. While total IQ's correlated to the extent of .70, IQ's for the separate abilities gave considerably lower correla-

tions ranging from .42 to .53. IQ's on the separate fourth grade tests could have been predicted at least as accurately from the "Total" first grade score as from the equivalent part scores, since the correlations with "Total IQ" ranged from .41 to .62. The distributions of actual changes in IQ showed sizable means and standard deviations indicating that a considerable amount of change in individual cases is to be expected. A chi-square analysis of patterns of high, average, and low scores showed no significant consistency in such patterns for individuals over the three-year period. The obvious conclusion is that judgments of young children on the basis of primary mental abilities tests should be made with extreme caution.

Ullmann, Leonard *see* McFarland, Robert L.

Vasilas, James N. *see* Fitzpatrick, Robert

Veroff, Joseph *see* Atkinson, John W.

Voiers, William D. (*Combat Crew Training Research Laboratory, HRRC, Randolph AFB*) **Relationships between individual proficiency and simulated radar bombing effectiveness.**

PROBLEM: Previous attempts to predict bombing results from independent measures of crew member proficiency have in general had little success. The present study was designed to investigate the relationships between bombing results and the individual proficiencies of bomb-team members under circumstances permitting evaluation of the interactions among the proficiencies involved.

SUBJECTS: The bomb-team members (aircraft commander, navigator, bombardier, and radar observer) of 176 B-29 crews which received combat crew training at Randolph AFB during 1952–1953.

PROCEDURE: Analyses of variance (factorial design) were conducted. The main effects were Ground School Grades of the four bomb-team members and the dependent variables were successively Simulated-Radar-Bombing Circular error, Range error, and Deflection error.

RESULTS: In all three analyses the radar observer and aircraft commander by radar observer interactions were the most pronounced with the exception of the AC-N-B-Obs. interaction in the case of deflection error. Within-group product moment *r*'s were computed to provide more precise evaluation of the interactions. The latter procedure revealed that where the radar observer's ground school grade is high the *correlation* between the AC's ground school grade and bombing errors is extremely high and significant, but that where the radar observer's grade is low, the AC's grade and bombing results are negligibly correlated. The correlation between the radar observer's ground school grade and bombing results was in turn found to be conditioned upon the AC's proficiency and to vary from negligible to high and significant as a function of the AC's ground school grade.

CONCLUSION: The results indicate that bombing performance can be predicted with considerable accuracy if provision is made for interactions among the individual proficiencies of appropriate crew members. They also indicate that ground school grades possess a certain degree of validity not heretofore evident. (Slides)

Waites, J. Arthur. (*VA Hospital, Perry Point, Maryland*) **The assessment of techniques for estimating the behavioral adjustment of chronic neuropsychiatric patients.**

PROBLEM: To assess the validity of certain techniques for estimating behavioral adjustment of chronic neuropsychiatric patients. Adjustment is defined in terms of extant behavior rather than in terms of such variables as intelligence, character traits, complex abilities, and psychodynamics.

SUBJECTS: 240 poorly adjusted patients requiring the close supervision of three locked buildings and 80 better adjusted patients in an unlocked building. Mean age of all patients was 57.5 years; mean length of hospitalization 17.5 years. These patients were all part of a pilot study at the Perry Point VA Hospital investigating treatment programs for chronic neuropsychiatric patients.

PROCEDURES: Open and closed building groups established validity criteria for the measures used. Measures included: Hospital Adjustment Scale, Multi-Dimensional Patient Rating Scale, Ward Behavior Check List, Patient Attitude Scale, Ward Behavior Form of Northport Record, and ten perceptual-motor tasks. Twenty-two psychologists and 14 psychiatric aides participated. Rationale for including each procedure will be discussed.

RESULTS: Five of the six procedures differentiated the closed from open wards very significantly. Intercorrelations of the measures ranged from + .23 to + .57.

DISCUSSION: Discussion of the results will be in terms of the usefulness of these techniques for establishing criteria of adjustment for use in treatment studies.

CONCLUSION: The findings permit the conclusion that diverse techniques for estimating behavioral adjustment differentiate chronic patients poorly adjusted to the hospital from those well adjusted.

Wallach, Hans *see* Austin, Pauline

Walsh, M. Kershaw, Laux, Elizabeth Kent, Hudson, Herschel, & Yates, Lawrence. (*University of South Carolina*) **The perception of movement and posture using ambiguous drawings of the human figure.**

PROBLEM: To analyze the factors of kinesthetic figure perception and their relation to differences of age, sex, culture, and personality.

SUBJECTS: 120 white college students, 76 white high school pupils, 56 urban Negro high school pupils, 58 rural Negro high school pupils, all groups evenly divided as to sex.

PROCEDURE: The *S*s were presented with a series of simplified drawings of the human figure selected for their capacity to elicit percepts of radically different kinesthetic content, there being no background cues to affect the interpretation. Stimuli were shown by slide projector in a group situation. Each *S* was asked to write a short statement for each picture, describing the posture or activity perceived.

RESULTS: In the college group, scores for Flexor were higher for female than for male *S*s. When combined with other kinesthetic factors, Vigorous, Mild, and Extensor, a score was obtained which was negatively correlated with the Guilford-Martin GAMIN measure of masculinity, *r* being .50. The most striking population difference was obtained for the factor Tension, which was scored for responses involving strong muscular effort but little or no movement, such as "pushing against a jammed door." Scores for this factor were highest in the white college group, next highest in the white high school group, scores for both Negro groups being very much lower, with the rural lower than the urban. The only factor found related to intelligence was the complexity of the response, this relation being very slight. Responses of the urban group were also slightly more complex than those of the rural.

CONCLUSIONS: Rorschach hypotheses concerning kinesthetic types are partly supported. Kinesthetic cognition differences found to be related to sex, age, and cultural assimilation strongly indicate the presence of projection. It is suggested that greater urbanization produces more stress and frustrated effort, which are reflected in increased Tension scores.

Wapner, Seymour, & Werner, Heinz. (*Clark University*) **Effect of meaning-induced sets on the position of the apparent median plane.**

PROBLEM: The experiment tested the hypothesis that opposite directional dynamics induced in a test figure by different meaning-sets have organismic effects reflected in opposite shifts of the position of the apparent median plane.

SUBJECTS: 40 men and 40 women.

PROCEDURE: An ambiguous stimulus pattern seen, according to instructions, either as the silhouette of two flying birds or two flying airplanes was used in two positions: test figure No. 1—birds flying right (or planes flying left); and test figure No. 2—birds flying left (or planes flying right).

The test figures were presented as luminous silhouettes in the dark. The center of the pattern was initially placed in the objective median plane. The *S* had to indicate to *E* how to move the test pattern so that its center appeared "straight-ahead."

Each test figure (No. 1, No. 2) was adjusted to the straight-ahead under one of two instructional sets: Half of *S*s were told that the test figure was the picture of two birds flying one behind the other (bird set); the other half were told that the test figure was the picture of two airplanes (plane set).

Thus test figure No. 1 when conceived of as two birds had a directional dynamics to the right and when conceived of as two planes had a directional dynamics to the left. Conversely, stimulus pattern No. 2 with "bird set" had a directional dynamics to the left, and with "plane set" had a directional dynamics to the right. The sequence of test patterns was controlled.

RESULTS AND CONCLUSIONS: According to the hypothesis, test figure No. 1 should be adjusted to the right of test figure No. 2 in proportionately more *S*s of the plane-set group, and proportionately fewer *S*s of the bird-set group. Chi square was significant in the expected direction. Thus there was confirmation of the hypothesis that opposite directional dynamics induced by different meaning-sets have organismic effects reflected in opposite shifts of the position of the apparent median plane.

The findings are interpreted in terms of sensory-tonic field theory of perception. (Slides)

Watkins, R. W. *see* McIntyre, C. J.

Watson, Jeanne. (*University of Michigan*) **The application of psychoanalytic measures of personality to the study of social behavior.** (Sponsor, Ronald Lippitt)

PROBLEM: To devise a set of categories for describing personality which would be based upon the depth factors central to psychoanalytic theory, but which would still generate specific and testable hypotheses about social behavior.

SUBJECTS AND PROCEDURE: The research was conducted during the summers of 1950 and 1952 at the National Training Laboratory in Group Development, with samples of adults totaling 101 and 77 respectively. Data obtained in 1950 covered ideology and values; reactions to the training program; and the behavior of the individual in the group, as perceived by self and others. Personality scores were obtained from the Blacky Pictures, and personality categories based upon these scores constituted the independent variables to be related to all other data.

In 1952 personality scores were obtained from a modified version of the Krout Personal Preference

Scale, with certain additions and scoring modifications which were introduced to maximize comparability with the Blacky Pictures. Individuals were categorized in the same way as before, and an effort was made to test and expand the previous findings on relationships between personality and social behavior.

RESULTS AND CONCLUSIONS: Use of the entire pattern of personality scores as a basis for classifying individuals proved successful. Persons were classified first in terms of dominant orientation toward the world: oral dependent, oral hostile, anal hostile, or anal compulsive. A further distinction was made within each of the hostile divisions, and among the persons still unclassified, to specify narcissistic overvaluation of self, anxious undervaluation of self, both of these, or neither of these.

Each of the resulting 14 personality categories showed characteristic behavioral tendencies, consistent with psychoanalytic theory and appearing in both studies. Statistically significant relationships were established between personality and such variables as rigidity, generalized attitudes of rejection or overacceptance, initiative or dependence in social behavior, emotional involvement in or withdrawal from group activities, and self-esteem. (Slides)

Watts, James W. *see* Robinson, Mary Frances

Webb, I. B. *see* Senders, J. W.

Wehrkamp, Robert F. *see* Teichner, Warren H.

Weiner, Bluma B. (*Wayne County Training School, Northville, Michigan*) **A report on the final academic achievement of thirty-six mentally handicapped boys who had been enrolled in a prolonged pre-academic program.**

This investigation is concerned with the rate of academic learning of a group of mentally handicapped boys who were transferred from a preparatory program to the institution's general school program after a period of more than two years in which formal instruction in reading and arithmetic had been discontinued. The special curriculum for these children emphasized socialization, language and concept development, arts and crafts experiences, and play and recreation activities. The children in the experimental group entered the institution at a mean age of nine years and eight months and were enrolled in the pre-academic program. They were transferred to the general school program during a six-year period, at a mean age of eleven years, with a mean academic achievement level at the fourth month of the first grade.

A comparison group of 31 boys was assembled from the children who had entered the general school program directly from the community during the same six-year period. This group was comparable in age and intelligence quotient scores, but had already attained a mean academic achievement level at the fifth month of the second grade. The difference between the achievement of the two groups at the time of entrance to the general program was significant beyond the 1% level.

The groups were not differentiated in the general instruction and achievement testing programs. The final academic achievement scores were obtained at a mean age of 15 years and 6 months for the experimental group and 15 years and 7 months for the comparison group. The mean final achievement scores were at the fourth month of the fourth grade for the experimental group and the sixth month of the fourth grade for the comparison group. The difference was not statistically significant.

It appears that the experimental group was not penalized by participation in the pre-academic program in so far as final achievement scores are concerned, but literally made up for "lost" time.

Weinstein, Sidney. (*New York University, Bellevue Medical Center*) **Time-error for tactual size judgments after brain injury.**

PROBLEM: Although time-error has been considered a clue to cerebral functioning, it has rarely been studied in *S*s with injuries to cerebral sensory systems. I previously reported marked increase in negative time-error for weight judgments in men with somatosensory deficit after brain injury. The present experiment explores time-error function for size judgments after cerebral lesions, in contrast to normal performance, and to performance after peripheral nerve injury.

SUBJECTS: 4 groups of 15 subjects each were employed. They were veterans with (*a*) traumatic brain injury and consequent somatosensory deficit; (*b*) traumatic brain injury but without somatosensory deficit; (*c*) peripheral nerve lesion to the arm; (*d*) peripheral nerve injury to the leg.

PROCEDURE: A set of four electronic timers controlled successive placing of two stimulus objects on the subject's palms. The stimuli were metal discs of equal size and weight. Four conditions of testing were employed: unilateral on left hand, unilateral on right hand, bilateral with standard on left, bilateral with standard on right. All judgments were made with reference to the comparison stimulus, which followed the standard after each of five interpolated intervals, viz., 0.1, 1, 2, 3, and 5 seconds. Intervals and conditions were randomized by means of latin squares.

RESULTS: Negative time-errors for size judgments prevailed for all groups under all conditions, and for all intervals. The magnitude of errors increased with

increasing time-intervals. All these results are similar to those reported earlier for weight judgments.

The group with brain injury and somatosensory deficit showed significantly greater negative time-errors on bilateral testing. All other groups showed significantly greater time-errors on unilateral testing.

Analysis by symptoms thus revealed significant group differences; analysis by locus of lesion did not. CONCLUSIONS: These findings suggest that one aspect of altered somatosensory functioning after cerebral lesions might be an abnormal interaction of stimuli impinging successively on different body parts. (Slides)

Weiskrantz, Lawrence. (*Harvard University and Department of Neurophysiology, Institute of Living*) **Behavioral changes associated with ablation of the amygdala.** (Sponsor, Karl H. Pribram)

PROBLEM: Damage to the amygdaloid complex in monkeys has produced gross behavioral alterations described as "increased tameness," "loss of fear." The present study attempted to relate these changes to alterations in avoidance behavior in situations which permit rigorous control and systematic analysis.

SUBJECTS: 17 immature rhesus monkeys.

PROCEDURE: Each animal received one of three lesions: AM—bilateral resection of amygdaloid complex; T—bilateral resection of temporal neocortex adjacent to amygdala; S—bilateral sham operation, with steps identical to AM or T, but without resection of tissue. T- and S-operates served as controls.

A modified two-compartment shuttle box was employed. The conditioned aversive stimulus was an abrupt change in intensity of illumination. The following postoperative relationships were studied: (*a*) *Acquisition* of avoidance behavior with man as aversive stimulus, (*b*) with electric shock as aversive stimulus; (*c*) *Extinction* of avoidance behavior which had been preoperatively established, (*d*) postoperatively established, with electric shock as aversive stimulus.

RESULTS: (*a*) AM-operates, in contrast to both control groups, failed to acquire avoidance behavior with respect to man, whereas (*b*) their rate of acquisition to shock was only slightly lower than that of controls. (*c*) The AM-operates' rate of extinction of preoperatively-established avoidance was much more rapid than that of controls, but (*d*) there were no intergroup differences in extinction of postoperatively-established avoidance.

CONCLUSIONS: Alterations described as "increased tameness" observed grossly in monkeys following amygdaloidectomy appear to be related to postoperative alterations in experimentally-produced avoidance behavior. Assuming that, to the laboratory animal, man is a conditioned aversive stimulus, one possible explanation of the AM-operates' nonavoidance of man is suggested by the finding that there is rapid postoperative extinction of preoperatively-acquired avoidance behavior. Of all the relationships investigated, this one appeared to undergo the most marked change. (Slides)

Weiss, Robert S. (*Survey Research Center, University of Michigan*) **An application of graph theoretical concepts to the analysis of sociometric information.** (Sponsor, Robert Kahn)

PROBLEM: Existing techniques for the detection of subgroups or cliques in groups which have responded to sociometric questions are based on definitions of subgroups which lack theoretical relevance. They emphasize the internal characteristics of the subgroups rather than the relationship of the subgroup to the group as a whole. The problem is to mathematically characterize subgroups whose social psychological characteristic is differentiation from other subgroups, and to develop a technique for their isolation.

SUBJECTS: Members of a government organization. The sociometric information consisted of reports of work-relevant contacts. Respondents had been asked to list all members of the organization with whom they had worked closely in the past few months.

PROCEDURE: The concepts of articulation point and of bridge were adopted from graph theory. An articulation point is defined in graph theory as a point whose removal leaves unconnected graphs. In the social psychological universe of discourse the articulation point may be seen as an individual who has contacts in many different subgroups. A bridge is a line connecting two otherwise separable graphs. The social psychological analogue here is a contact between individuals who are members of different subgroups.

RESULTS: A method was developed for the identification of subgroups, articulation points, and bridges. The social psychological interpretations of the graph theoretical concepts were justified through examination of interview protocols. The articulation point, interpreted as a position in contact with many subgroups, would seem to offer a strategic position for the discharge of integrative function within the organization. The bridge, interpreted as a contact between members of separate subgroups, would seem not to indicate such function. Interview protocols of individuals in articulation positions revealed a sensitivity to a general expectation that they perform integrative and coordinative activities as parts of their job. This was not true of individuals involved in bridges. (Slides)

Weltz, Paula *see* Fox, David, and Lorge, Irving

Werner, Heinz *see* Wapner, Seymour

West, Leonard J. (*6563rd Research and Development Group, Technical Training Research Laboratory, HRRC, Chanute AFB*) **The effect of a speed-set on the acquisition of accuracy in a complex motor skill.** (Sponsor, Robert G. Demaree)

This investigation dealt with the effect of a speed-set on the acquisition of accuracy in elementary typewriting in which practice was in short spurts not exceeding 60 seconds, on materials graded in length, totaling 200 minutes spread over 25 school days. One hundred secondary school students (5 classes, 20 students each) were urged in 80% of their daily practice to type at their absolute maximum rates, utterly heedless of accuracy. For the final 20% of each day's practice learners were asked to strive primarily for perfect accuracy, rather than speed. To facilitate the achievement of the perfect-accuracy goal, learners were told to drop back to a shorter sentence or paragraph which had already been satisfactorily completed during the earlier speeded part of each day's work. An opposed control group of 100 students devoted 100% of their practice toward perfect accuracy as a primary goal.

Examination of papers of all students for every fifth day revealed only very occasional success on the part of very few of the *S*s in transcending the set for speed, in achieving the perfect accuracy imposed as a goal. Further, the small percentage of successful students became steadily even smaller during the course of the experiment. The control group of 100 students, all of whose practice was oriented toward accuracy, was regularly and almost uniformly successful in meeting perfect-accuracy goals.

Other experiments with less extreme stresses on speed and accuracy, with different amounts and distributions of practice time under each stress, have generally shown very small negative transfer. The findings of this experiment, indicating very high negative transfer, conflict with those of other experiments and intimate that the effect of a speed set on the acquisition of accuracy may depend, in part, on the degree of stress on each factor and on the amount and distribution of practice time with each factor.

Whalley, Sherman L. (*VA Mental Hygiene Clinic, Pass-a-Grille, Florida*) **A comparison of the psychological maturity of institutionalized and noninstitutionalized male senescents.**

PROBLEM: To investigate in senescent individuals the relationship of dependency status to psychological maturity by a comparison of a group of institutionalized males to a similar noninstitutionalized group.

SUBJECTS: 80 senescent male veterans living in the St. Petersburg, Florida area were selected. Forty of the *S*s were residents of a domiciliary operated by the Veterans Administration, while the remaining 40 were noninstitutionalized and financially independent. The age range of the 40 institutionalized *S*s was from 60 to 79 years, 20 being in the seventh decade and 20 in the eighth decade. The noninstitutionalized group of *S*s had the same distribution according to age. All *S*s were white, English-speaking, native to the United States, with at least four years of schooling and a minimum M.A. of 12 years.

PROCEDURE: The Rorschach test and Russell and Dennis' standardization of Piaget's test of animistic thinking were administered individually to each *S*. Four specific null hypotheses were tested. They involved a comparison of the domiciliary and nondomiciliary groups on the basis of (*a*) the Davidson Rorschach adjustment score, (*b*) degree of animistic thinking, (*c*) the *W/M* ratio of the Rorschach, and (*d*) the directional vs. ambiguous ratio of the *M* responses on the Rorschach test.

RESULTS: Analysis of the results revealed that none of the four null hypotheses had been disproved. Exploratory investigation revealed an amazing homogeneity among *S*s in regard to the individual Rorschach variables. In addition, the groups of *S*s could not be differentiated by means of more molar Rorschach concepts such as sex shock, hostility toward males, and hostility toward females.

CONCLUSION: There appears to be little or no difference in psychological maturity between the institutional and noninstitutional groups, variation in environmental stress probably accounting for the difference in dependency status.

Wheeler, John I., Jr. (*M. D. Anderson Hospital for Cancer Research, University of Texas*), & **Caldwell, Bettye McDonald** (*School of Medicine, Washington University, St. Louis*) **A psychological evaluation of women with cancer of the breast and of the cervix.**

Psychological investigation in the field of cancer research is a new development. Since beginning research in a new area must be especially rigorous, the study of Tarlau and Smalheiser (*Psychosom. Med.*, 1951, 13, 117–121) reporting marked differences between personality characteristics of women with cancer of the breast and cancer of the cervix was repeated with added refinements. That there are no psychological differences between women with cancer of the breast, cancer of the cervix of the uterus, and women without a malignant condition was the hypothesis tested.

Three groups of 20 white, married women composed the sample. The "breast group" and "cervix group" were composed of patients, unselected except for diagnosis, seen in the Tumor Service and Surgery Clinic of Washington University Clinics. The "control" patients were obtained from various other divisions of Washington University and St. Louis City Hospital Clinics and met the criteria of never having had a malignant condition, endocrine malfunction, or psychiatric involvement. The groups were comparable for age, education, intelligence, and socioeconomic level.

The groups were compared on the Kent E-G-Y, Rorschach, Draw-A-Person, Picture-Frustration Study, and a controlled interview. Although the results are not generally positive, several trends seem present. On the Rorschach the cervix patients showed "less control," particularly with respect to their use of texture and color. Breast patients exhibited less "inner drive," but reacted more like the controls in handling texture and color. In the interview, the breast group admitted to less early sexual activity than either the cervix or control groups. In general the results indicate that the groups were more alike than different. Although several of the statements of Tarlau and Smalheiser are confirmed, most are not. No suggestion is here made that the neoplastic transformation or its localization is psychogenic in origin.

White, George D. *see* McGuire, Carson

Whittaker, James O. (*University of Oklahoma*) **A study of avoidance conditioning under mild and extreme hyperthyroidism.**

PROBLEM: Are the contradictory findings of the effect of hyperthyroidism on conditioning related to the extent of the induced condition?

APPARATUS AND PROCEDURE: 15 albino rats were divided into three groups of five each. One group was injected with ⅓ cc thyroxin (1cc = 1 Mg synthetic thyroxine), subcutaneously, on each of three days. The second group received ⅑ cc each day for three days. The control group received no injections.

Animals were tested one day after the last injection. Each animal was restrained in a metal hood which allowed only the head to protrude. A photoelectric cell on either side of the head recorded head movements. The side to be reinforced was selected randomly. If the animal was on the center or the nonreinforced side, the CS was presented every 30 sec. A clicking and blinking CS was presented for 10 sec., the US (strong, pulsating shock to the tail) presented for 5 sec., both light and shock terminating together.

A conditioned response consisted of a movement to the reinforced side which occurred between .5 and 5 sec. after CS onset. The training period consisted of four 10-min. periods, interspersed with 5-min. rest periods.

RESULTS: The control animals gave an average of 40% CR's during the training period as against 8% for the mildly hyperthyroid group and 9% for the extremely hyperthyroid group. The control group was significantly superior ($p > .05$) to the combined hyperthyroid groups. No significant differences were found in per cent CR's between the two hyperthyroid groups.

Mean latency of response during training was 3.9 for the control group, 5.8 for the mildly hyperthyroid, and 6.2 for the extremely hyperthyroid groups. Analysis of variance indicates significance at greater than the .001 level. The difference in mean latency between experimental groups was not significant.

CONCLUSION: There is no evidence to indicate that either degree of hyperthyroidism enhances conditioning, and there is evidence that it has an inhibitory effect which, within wide ranges, does not operate as a function of the degree of hyperthyroidism. (Slides)

Wickens, Delos D., & Panakal, Joseph J. (*Ohio State University*) **Partial reinforcement and discrimination training.**

PROBLEM: Viewed logically the partial-reinforcement situation and the discriminative-training situation are similar. In one the training tone itself is occasionally presented without reinforcement; in the other a different tone, but one within the same dimension, is presented without reinforcement. In partial reinforcement the maximum values for both excitation and inhibition occur at the same point on the continuum, whereas in discriminative training the maxima of either process are separated. Hence it might be predicted that greater habit strength would accrue to the reinforced stimulus under discriminative than partial-reinforcement training. The present experiment was conducted to test this hypothesis.

PROCEDURE: Three groups of *S*s of 20 each were used. The response employed was the GSR. The UCS was a shock. For all groups 8 reinforcements were given with a 1000-cps tone and all groups were given 4 extinction trials to this tone. In addition, Group I received 8 nonreinforced 1000-cycle tones during training, Group II received 8 nonreinforced tones at 468 cps, and Group III received 4 nonreinforced 468-cps tones and 4 nonreinforced 1964 tones.

RESULTS: The extinction data are recorded in terms of log micromhos. The descending order of response magnitude for the three groups during the extinction is Group II, Group III, and Group I. Group II dif-

fered from Group I at the 1% level and from Group III at the 7% level. Groups III and I do not differ from each other.

CONCLUSIONS: The difference in response magnitude between the partial group and Group I is predictable from a theory which assumes independence of excitatory and inhibiting processes. The reasons for the failure to find a difference between Group I and Group III is not clear. (Slides)

Wideman, Harley R. (*Toronto Psychiatric Hospital*) **The application of quantitative procedures to the scoring and validation of the Lowenfeld Mosaic Test.**

PROBLEM: To develop a quantitative method for scoring the Lowenfeld Mosaic Test which will prove valid in clinical diagnosis.

SUBJECTS: 107 normals, 70 schizophrenics, 48 neurotics, and 20 organics.

PROCEDURE: From the literature and clinical experience with the test, 39 scoring categories for the Lowenfeld Mosaic Test were developed and given operational definition where possible. These ranged from completely objective categories such as percentages of particular shapes and colors to less rigorously defined ones as "completeness of pattern." The scores of the patient groups were compared with those of the normal *S*s. Studies of scoring and retest consistency were also undertaken.

RESULTS: (*a*) Consistency of test scoring for all categories except the rating of "aesthetic quality" was high. (*b*) Retest consistency for 13 of the categories was significant beyond the 1% level. Thirteen were below the 5% level. (*c*) On 9 scoring categories the schizophrenics differed from the normals very significantly ($p = .01$). They used fewer colors, more white, simpler shapes, constructed multiple designs more frequently, and used color patterning and symmetry of form less frequently. (*d*) On 11 categories the organics differed from the normals at the same level. They used fewer pieces and made incomplete designs more often (as well as showing some of the same characteristics as the schizophrenics). (*e*) Only 4 differences at the 1% level were found between normal and neurotic *S*s. The latter used more red and simpler shapes, and constructed less complex patterns.

CONCLUSIONS: (*a*) Quantitative scoring procedures may be employed with profit in research with the Mosaic test. (*b*) The test has considerable validity for diagnosis of schizophrenia and organic brain dysfunction. (Slides)

Wilcox, Yvonne *see* Brackbill, Glen A.

Wilkins, Walter L. *see* Rigby, Marilyn K.

Willard, Norman, Jr., Olson, Howard C., & Arnold, Robert D. (*Army Field Forces Human Research Unit No. 1, Fort Knox*) **The relationship between lateral phoria and some tests of real and apparent depth perception.** (Sponsor, Howard C. Olson)

PROBLEM: To determine the relationship between measures of lateral phoria as measured by the Bausch and Lomb Ortho-Rater and performance on the Howard-Dolman depth test, the Harker Stereoptometer, the Ortho-Rater stereopsis plate, the Olson stereopsis plate, the Keystone Aviator's Unit, and the Three-Dimensional Projection Stereopsis Test, slides PV 12 and PV 13.

SUBJECTS: 102 privates in the U.S. Army were given the tests in the battery as a part of a larger study to determine their potential as stereoscopic range finder operators.

PROCEDURE: The *S*s were administered the battery of tests in random order over a three-day period. The Ortho-Rater stereopsis plate and the Olson stereopsis plate were presented in the standard Bausch and Lomb instrument. The Howard-Dolman depth test was administered to require twelve settings and was scored for both mean error and variability. The Stereoptometer is a miniature range finder with unit power and a base length equal to the interpupillary distance of the observer. Ten settings were made and these were scored for mean error and variability. The Keystone and Three-Dimensional tests were administered and scored in the standard manner.

RESULTS AND CONCLUSIONS: Product-moment correlations were calculated between each variable and all other variables. Results show significant correlations (at the .05 and .01 levels) between each of the depth tests and the direction of far lateral phoria (i.e., esophoria to exophoria), as well as significant correlations between the depth tests and the degree of far lateral phoria (i.e., orthophoria to eso- or to exophoria). These results indicate that a moderate amount of far lateral exophoria is associated with good depth perception test scores and that far lateral esophoria is negatively associated with good depth test performance. The correlations between the depth tests and near lateral phoria were not statistically significant.

Personnel and facilities of the Army Medical Research Laboratory were made available for the administration of this study.

Willmorth, Norman E., & Lindelien, Wallace B. (*Psychological Services, Inc., and the University of Southern California*) **Criteria of military leadership: I. A factor analysis of rating-scale variables.** (Sponsor, Floyd L. Ruch)

PROBLEM: In order to reduce the amount of computational labor and to increase the reliability of individual dimensions, a 34-item rating scale and an over-all leadership rank order, which were to be used as criteria of leadership for validating predictor variables, were submitted to a factor analysis.

SUBJECTS: The correlation matrix was obtained using 317 officers drawn in a stratified random manner from among 633 officers attending the Squadron Officers' Course at Maxwell Field, Ala., on whom data were available. For 9 weeks, these officers met in discussion groups of 13 or 14 members, attended lectures, mess, and other group functions together, and, excepting those living off base, had quarters together.

PROCEDURE: The rating-scale items were derived from a critical incident survey conducted in the Far East Air Force. During the eighth week of the course each officer rated every officer in his discussion group. This procedure yielded from 7 to 13 ratings on each item per person. Ratings were weighted, summed, and averaged for each person. Rank orders were averaged by Hull's transformation. The resultant scores were intercorrelated. Rank, age, service, and education were added to the matrix as variables, and the matrix was reduced using Thurstone's complete centroid method. Seven factors were extracted and rotated to positive manifold and simple structure.

RESULTS AND CONCLUSIONS: Six of the seven factors are tentatively identified as Proficiency in Leadership Activities, Military Service, Interpersonal Relations, Responsibleness, Ethical Officer Conduct, and Command Presence. The seventh factor is judged to be a residual.

This research was conducted under sponsorship of the Human Resources Research Institute, Research Project No. 505-039-0001, Contract AF 18(600)-468.

Wilner, Daniel M. (*Research Center for Mental Health, New York University*) **Sensitivity to another's change of attitude as a function of one's own attitude.**

PROBLEM: In dramatic motion pictures characters are sometimes depicted as undergoing change in point of view regarding issues dealt with in the film. How is interpretation of this change (or failure to change when change seems called for) affected by relevant audience attitudes?

PROCEDURES: In the summer of 1950 a dramatic motion picture produced in Hollywood, *Home of the Brave*, was shown to an audience of 96 persons, median age 25, half of whom were college students. The film concerns interaction among one Negro and five white soldiers.

Prior to the film showing, each member of the audience filled out a version of the California Ethnocentrism Scale containing two subscales. The film was interrupted for the audience to take the same questionnaire from the point of view of each white character. This procedure was repeated at the end.

RESULTS AND CONCLUSIONS: Judgments of the ethnic attitudes of three characters properly showed little change. The final points of view of two other characters were not established clearly until well beyond the first judgment point. The first average rating placed them as quite prejudiced, with no differences among the audience members who were themselves high or low in prejudice. At the film's end, both characters were judged to be less prejudiced than earlier, but the less prejudiced audience members revised their original judgments more than did the more prejudiced.

Analysis of postfilm judgments also confirms an earlier finding that judgments of others' attitudes are a function of both objective reality and the judges' own attitudes.

Correlational and other data are presented.

Relative insensitivity to such change may contribute to "propaganda evasion" by audience members with contrary views to mass media messages which hold ethnic prejudice up to scorn. The relative lag of some persons in detecting change in the attitudes of others is believed to be part of the general process of interpretation of social events.

Wilson, R. C. *see* Christensen, P. R.

Winder, Alvin E. (*VA Hospital, Downey, Illinois*) **White attitudes towards Negro-white interaction in a number of community situations.**

PROBLEM: What attitudes do the white residents of Chicago have towards Negro-white participation in a number of interactive situations that are likely to occur in a mixed community? How are these attitudes affected by biracial contact and by the social status of the white residents?

SUBJECTS: 90 white housewives were selected from three areas of Chicago. The first area was free from Negro in-migration. The second was experiencing the initial movement of Negro households into the community, and the third contained a large group of Negro residents living side by side with the remaining white families. Each area was further divided into a middle- and lower-status subcommunity.

PROCEDURE: Ten interactive situations describing typical biracial contacts that would be likely to occur in a mixed community were composed as news items. These items were scored for acceptance or rejection of the situation. The data were analyzed to determine the effect of status and in-migration on attitudes towards participation in the situations.

RESULTS AND CONCLUSIONS: Situations involving biracial housing, acceptance of religious guidance from a Negro pastor, and mixed adolescent groups were affected by both status differences and variations in residential in-migration.

Situations that were affected only by variations in residential in-migration involved the acceptance of a high status Negro as a neighbor and the attitude towards participation as a passenger in a Negro chauffered taxi.

Situations that were unaffected by both differences in social status and in residential in-migration involved attitudes towards joint use of public transportation, towards Negro and white children playing together, employment of a Negro handyman, employment of a Negro domestic, and the delivery of a white infant by a Negro physician.

Status differences seemed to be due primarily to greater acceptance of participation by the middle-status group.

Residential differences seem to be due primarily to greater acceptance of participation in Area I.

Winick, Darvin, & Tiffin, Joseph. (*Occupational Research Center, Purdue University*) **A comparison of two methods of measuring the attention-drawing power of magazine advertisements.** (Sponsor, Joseph Tiffin)

This paper presents data on an investigation of the relationship between paired-comparison scalings of magazine advertisements on attention-drawing power by tachistoscopic method and by the relatively cumbersome eye-movement photographic method. The *S*s were 154 students in psychology, education, and adult education classes.

The *S*s took part in a group tachistoscopic presentation in which 10 full-page colored magazine advertisements were flashed on a screen in pairs. All possible pairs of the advertisements were presented. From *S*'s responses of preferences the 10 advertisements were scaled according to attention-drawing power. The split-halves reliability of this method was 0.99. Thirty-six *S*s returned for individual experiments using the Purdue Eye-Camera. Total first looks and total time spent on each advertisement during the paired presentation were used as measures of the attention-drawing power of the advertisements. Reliabilities of 0.67 and 0.73 were found for these two methods.

The total preferences for the advertisements found in the tachistoscopic method were compared first with the total first looks determined by the Eye-Camera. A corrected correlation of 0.87 was found. When a similar comparison was made between the tachistoscopic total preferences and the amount of time spent on each advertisement using the Eye-Camera a corrected correlation of .99 was found.

The results indicate that in situations where eye-movement photography has been used to indicate the attention-drawing power of magazine advertisements, a saving in time and energy can be effected by using a group tachistoscopic method. (Slides)

Wittenborn, J. R. (*Yale University*) **Derived correlations as a possible means of studying drive patterns.**

This study is concerned with a phenomenon which is familiar both to practicing clinicians and to students of personality. Specifically, it is often observed that responses (or symptoms) which appear to have the same adaptive significance and are in some behavioral respects equivalent to each other may be uncorrelated, if not mutually exclusive, in their appearance. Because of the alternative nature of such responses, it has been difficult to examine their behavioral equivalence and to show evidence that the various responses may all be means for reducing the same drives. In the present study this difficulty has been circumvented by first preparing an original set of intercorrelations among the possible responses and then preparing a set of derived intercorrelations which are based on the pattern of correlation each variable shows with all the other variables. The derived correlations show strong relationships among certain behaviorally equivalent variables which, because of their alternative nature, were not significantly interrelated in the original correlations.

The implications of derived correlations are illustrated by comparing a factor analysis of a set of original intercorrelations with a factor analysis of a set of derived intercorrelations. The data are based on the responses of 100 children to a standard set of social reaction questions. The analysis of the derived correlations results in fewer factors than the analysis of the original correlations, and the factors resulting from the analysis of the derived correlations have implications for an underlying pattern of higher-order drives which was not indicated in the analysis for the original correlations. (Slides)

Wittreich, Warren J. (*Princeton University*) **Aniseikonia and distortion of the self-image.** (Sponsor, Hadley Cantril)

PROBLEM: The general hypothesis states that induced visual distortion of the sizes and/or shapes of people is not predictable on the basis of the optics of the distortion-producing situation. One test of this is to note the differences in the descriptions of an *S*'s own image as opposed to a stranger's image under conditions of induced optical distortion.

SUBJECTS: 17 females and 7 males of high school and college age.

PROCEDURE: The *S*, wearing a pair of aniseikonic lenses, described his image alone in a mirror, the stranger's image alone in the mirror, and both images together. He also set a $7' \times 2'' \times 2''$ post until it appeared: (*a*) vertical in the mirror, (*b*) parallel to his image, and (c) parallel to the stranger's image.

Content analysis was applied to the verbal data. The descriptions were divided into statements indicating: (*a*) bodily tilt, (*b*) over-all bodily size change, and (*c*) detailed bodily changes. Frequencies were compared for self and stranger images. Second, a comparison was made between the measured apparent bodily tilt for the self and stranger images derived from the post settings.

RESULTS: The self-image descriptions were characterized by detailed changes of the body, the stranger image by over-all bodily changes. Chi-square breakdowns show these differences to be significant. Detail changes of the self were bimodal—either above or below the waist only. Owing to confounding factors inherent in the apparatus, no clear-cut differences were obtained from the post settings.

CONCLUSION: The results of this study are congruent with earlier published works by the author and compatible with a functional theory of perception. They also suggest that methods of inducing visual distortion provide a valuable means of investigating the ways that personality and interpersonal relationships are involved in the perceptual process.

Wodinsky, Jerome, & Bitterman, M. E. (*University of Texas*) **The solution of oddity and non-oddity problems by the rat.** (Sponsor, M. E. Bitterman)

In an attempt to understand the nature of the process underlying the solution of oddity problems by the rat, a problem which can be described as soluble in terms of an oddity principle was compared with a similar problem which cannot be so described. Two groups of rats were trained in a three-window jumping apparatus with black (B) and white (W) stimulus cards. Both problems involved the same four card-arrangements—BBW, WBB, WWB, and BWW. For Group I (the oddity group) the rewarded responses to these arrangements were respectively, right, left, right, left; for Group II (non-oddity or matching-from-sample) the rewarded responses were, respectively, left, right, left, right; for neither group was a response to the center window ever rewarded. Each group was trained by the correction method on the two part-problems alternately (BBW, WBB and WWB, BWW) until the transition from each part to the other was made without error. Rate of learning was found to be significantly more rapid in the oddity group. The theoretical implications of this finding will be discussed. (Slides)

Wood, Roger L. *see* Smith, Donald E. P.

Worchel, Philip *see* Blades, Clifford

Wrigley, Charles. (*Training Research Laboratory, University of Illinois*) **The estimation of communalities in factor analysis by an iterative procedure.**

PROBLEM: To determine the effectiveness of an iterative procedure for getting the communalities in principal-axes factor analyses. Psychologists have usually inserted communalities, instead of unities, in the diagonals of the correlation matrix, with the aim of reducing the number of factors. In terms of the principal-axes method, this means finding diagonal entries such that some of the latent roots will be zero. This study reports the results of an iterative procedure for getting zero roots, using an electronic computer.

PROCEDURE: A preliminary principal-axes analysis was made of Burt's correlation matrix of eleven emotional traits, with unities in the diagonals. The factors to be retained were used as a basis for estimating the communalities. Improved estimates of communalities were obtained from the first m factors of each new set of factor loadings. Separate iterations were carried out to reduce the matrix to rank 10, rank 7, rank 5, and rank 4 respectively.

RESULTS: 1. For reduction to ranks 7, 5, and 4 the absolute sum of the rejected latent roots progressively diminished. Figures will be presented to show the rate of convergence. The problems arising from latent roots becoming negative, estimates of communalities rising above 1, alternative solutions achieving reduction to rank m, will be discussed. Indices will be given to show the degree of similarity between the factors obtained from the use of unities and the various sets of communalities.

2. A direct solution may be obtained for rank 10 by subtracting the value of the smallest latent root from all diagonal entries.

3. Given access to an electronic computer, the iterative procedure appears practicable for regular use. A machine program should be written so that the iterations for reduction to any postulated rank are carried out in a single machine operation.

Wyckoff, L. Benjamin, Jr. (*University of Wisconsin*) **A mathematical model and an electronic model for learning.**

The objective of the present project was to develop a quantitative model which would take into account the learning of observing responses. A quantitative

postulate of secondary reinforcement plays an important role in this formulation. The postulate is based on a qualitatively expressed notion originally suggested by Skinner, and later elaborated by other theorists, that secondary reinforcing properties of a stimulus are related to the discriminative stimulus value (or response eliciting value) of the stimulus. By adopting quantitative definitions of reinforcement and "discriminative stimulus value," this proposition was readily translated into a quantitative postulate. This postulate forms the core of the mathematical model.

An electronic model was constructed to test whether the postulate system would yield plausible predictions of observing response learning. The device constitutes a robot which operates according to the postulates of the mathematical model. The electronic model was confronted with a discrimination problem in which it was required to select, by means of observing responses, those aspects of the stimulus situation which were relevant, as well as learning to make the correct response to the discriminative stimuli. The electronic model and the corresponding mathematical model were described, and "learning curves" representing the performance of the machine were presented. The performance of the machine demonstrates that the theory will yield observing response learning in a two-choice situation.

Yates, Lawrence *see* Walsh, M. Kershaw

Young, William C. *see* Riss, Walter

Zegers, Richard T., & Milano, Eugene J. (*Fordham University*) **Red-green discrimination in the dog.**

Using an optical system based upon that used by Robert Brown in his experiments on color vision in the rabbit and reward type of conditioning procedure, a posttraining series of 1000 discrimination trials was run on a single female terrier, age 12 months. The colors of the transmitted light stimulus were produced by employing two Wratten Filters No. 61-N (green) and No. 29-F (red) in the beam of a 500-w. white light source. Calibration curves relating voltage to brightness were obtained by means of a Macbeth illuminometer. Carefully calibrated sections of both filters were inserted in the standard beam of the Macbeth and this procedure obviated the need for making heterochromatic matches. The range of brightness in the apparatus was 5 log units. Brightness steps of .1 log unit were calculated and these were presented to the animal in random fashion in reference to both brightness and hue. The indicator response was a tap on a bar by the animal with her front paw. After 1000 trials had been given the percentage of response was 48.9% erroneous response and 51.1% correct response. The obvious conclusion to be drawn is that under the conditions of this experiment the animal failed to make any significant discrimination between the red and the green light stimulus. (Slides)

Zeidner, Joseph, & Gordon, Donald A. (*Personnel Research Branch, TAGO*) **A comparison of visual acuity measurements by wall charts and Ortho-Rater tests.**

PROBLEM: Recently several instruments involving optical simulation of distance have been developed for large scale visual acuity testing. Before any one of these new instruments is seriously considered for extensive visual testing, it should be compared with wall-chart presentation. The present paper compares acuity scores on wall charts and on the Bausch and Lomb Ortho-Rater instrument test from the standpoints of relative difficulty, reliability, and similarity of functions measured.

SUBJECTS: 117 soldiers from Fort Myer, Virginia. Soldiers varied in age between 19 and 37 years, with a mean age of 22.4 years, and a standard deviation of 2.6. All *S*s who customarily wore corrective lenses used them in the experiment.

PROCEDURE: Visual acuity scores were obtained binocularly on Ortho-Rater plates and duplicate wall-chart tests. The Ortho-Rater plates were made from the wall charts by a double reduction photographic process. Letter and modified Landolt ring targets were employed. Previous practice had been given on mesopic and other photopic wall-chart and Ortho-Rater plates before the tests under consideration were given. The same procedure was followed in the retest session two weeks later.

RESULTS: The two methods of presentation were of equal difficulty, except for slight discrepancies introduced by photographic reduction. The reliabilities of the Ortho-Rater tests were significantly higher than those of the wall-chart tests. The correlations between Ortho-Rater and wall-chart tests were about as high as the reliabilities of the tests themselves. When corrected for attenuation, these correlations approach unity. No evidence is afforded, under these conditions, of a machine or "apparatus accommodation" factor affecting Ortho-Rater acuity scores. (Slides)

Zener, Karl *see* Sulzer, Richard L.

Ziller, Robert C. (*Human Factors Operations Research Laboratories, Bolling AFB*) **Leader-group rigidity and group cohesiveness: determinants of group problem-solving processes and concomitant affective group behavior.**

PROBLEM: Inasmuch as it has been repeatedly shown that various personality variables are related to individual problem-solving processes, it was hypothesized

that various personality variables of the leader and group structure variables are related to group problem-solving processes and attendant affective group behavior. Group-leader interdependence is a basic consideration. The independent variables in this study include the "personality rigidity" and "social rigidity" of the assigned leader, group rigidity, and group cohesiveness. The dependent variables include the group's approach to the problem, the hierarchical status of the individuals whose suggestions as to the approach were acted upon, confidence in the group, and the group's evaluation of its performance.

SUBJECTS: 94 ten- and eleven-man bomber crews in training at an Air Force base.

PROCEDURE: Just preceding the problem-solving session, the crew members filled out a sociometric questionnaire which provided three measures of cohesiveness: leadership integration, communication integration, and crew attraction. The problem involving five possible approaches of five degrees of flexibility was described to each aircrew as a group task. After introducing the problem but before the group attempted to solve the problem, the crew members completed a questionnaire designed to measure group confidence. Following the problem-solving session, the crew members estimated their group's performance in relation to the performance of other crews. Finally, the California F-Scale and a "Social Rigidity" or "Conformity Scale" were administered to all crew members.

RESULTS: A low correlation was found between "personality rigidity" and "social rigidity" ($r = .11$). On this basis, the criterion data were analyzed with regard to a statistical combination of these two measures. Crews whose leaders demonstrated low "personality rigidity" and moderate "social rigidity" employed superior problem-solving approaches and the group members indicated greater confidence in the crew. Greater differences were observed when the rigidity of the crew members was considered along with the rigidity of the leader. Two indices of cohesiveness, "communication integration" and "crew attraction," were positively related to group problem-solving flexibility, but "leadership integration" was negatively related to this same variable. Other results are discussed.

Zimmerman, Claire. (*Harvard University*) **The effect of anticipation upon memory interference.** (Sponsor, Jerome S. Bruner)

PROBLEM: This experiment tests the hypothesis that memory interference in retroactive inhibition experiments can be reduced by informing the subjects about the kinds of tasks they will be asked to perform; and, further, that a warning against confusion between original and interpolated material further reduces interference. In essence, the experiment was concerned with the reduction of interference through general cognitive structuring of the learning situation.

SUBJECTS: 147 undergraduates.

DESIGN: Six groups were run, each receiving increasingly more knowledge about the requirements of the situation. The least structured group was given no anticipatory information; the most structured one was told in advance they would receive an original list, an interpolated list, and relearning trials on the original list. Other groups were intermediate in anticipatory structuring. Each group was subdivided into a "confusion warning" group and one not so warned.

PROCEDURE AND MATERIALS: The original list of 20 adjectives was read aloud in a fixed order five times at a rate of one word per 2 sec. with a pause of 30 sec. between repetitions. Then the *S* received a free recall test lasting 3 min., with the instruction to reproduce the proper order. After 1 min., the *S*s were given the interpolated list, another 20 adjectives, followed by an identical recall test. One min. later *S*s were given a 3-min. recall test on the original list and then two trials by the anticipation method.

RESULTS AND CONCLUSIONS: Degree of anticipatory structuring is significantly related to amount of interference. The fully structured groups show markedly less interference than those with only partial or no knowledge of the requirements of the situation. The difference is obtained both in free recall and in relearning by the anticipation method. Warning about interference reduces slightly the amount of interference in free recall only.

Zimmerman, Wayne S. (*Brandeis University*), & **Humphreys, Lloyd G.** (*Human Resources Research Center*) **Item reliability as a function of the omission of misleads.**

The usual procedure following an internal consistency item analysis is to rewrite or revise those misleads proving to be relatively ineffectual. The larger fixed number of misleads is considered not only desirable, but necessary in order to minimize chance successes. Before this study was begun the hypothesis was advanced that in some instances, at least, the insistence upon a fixed number of misleads per item might, in the long run, have an over-all detrimental effect.

The investigation was conducted in two steps. In the first, a five-choice test was reduced to a form containing only the correct answer plus the single most attractive mislead, which was then administered to 800 unclassified aviation cadets. A significant loss occurred in item reliability. Administration time diminished significantly, but it was highly questionable that this economy compensated the loss in re-

liability. Since some very attractive misleads were eliminated, the question of what effect the omission of only unattractive misleads would have upon the results was still unanswered.

Thus the second phase of the investigation was undertaken. A test containing 100 five-choice items was selected. Two hundred and twelve of the poorest misleads were eliminated for the experimental form of the test, which then contained 40 two-choice, 32 three-choice, and 28 four-choice items.

A significant gain in item reliability was registered despite the fact that the eliminated misleads did discriminate to some extent. Also the working time per item was reduced markedly.

The results conclusively supported the hypothesis that the efficiency of a test can be improved by deletion of misleads which item analysis discloses to be discriminately weak. It was concluded also, based on the results of both phases of the experiment, that the reliability of test items is as much a function of selection of misleads as it is of the correct answer. Examinees obviously are attracted or repelled in a nonchance manner by well-formulated misleads.

Zubin, Joseph *see* Staudt, Virginia

SYMPOSIA AND OTHER MEETINGS[2]

AMERICAN PSYCHOLOGICAL ASSOCIATION

Presidential Address

J. McV. HUNT, Chairman

LAURANCE F. SHAFFER. Of Whose Reality I Cannot Doubt.

Annual Report to the Membership

LAURANCE F. SHAFFER, President

CARROLL L. SHARTLE. APA Finances and the 1954 Budget.

ANNE ANASTASI. Major Decisions of the 1953 APA Council Meetings.

FILLMORE H. SANFORD. Annual Report of the Executive Secretary.

Induction of New President

Invited Address, Conference of State Psychological Associations

CHARLES N. COFER, Chairman

DAVID W. LOUISELL, Professor of Law, The Law School, University of Minnesota. The Psychologist in the Legal World.

Film Showings, Committee on Audio-Visual Aids

I. Clinical Psychology

C. R. ROGERS and R. H. SEGAL. Client-centered therapy, part I.

C. R. ROGERS and R. H. SEGAL. Client-centered therapy, part II.

C. D. O'CONNOR. That the deaf may speak.

University of Southern California. Good speech for Gary.

Association of American Medical Colleges. A concept of maternal and neonatal care.

II. Genetic and Social Psychology

J. ANTONITIS and J. P. SCOTT. Genetics and behavior.

A. GESELL *et al.* Embryology of human behavior.

W. WOLFF. Symbols of expression.

K. J. HAYES and C. HAYES. Vocalization and speech in chimpanzees.

British Information Services. Your children's play.

III. Experimental-Physiological

N. H. PRONKO and F. W. SNYDER. Vision with spatial inversion.

J. H. MASSERMAN and C. PECHTEL. Experimental neuroses in monkeys.

H. F. HUNT and J. V. BRADY. The effect of electro-convulsive shock (ECS) on "conditioned anxiety."

L. SCHREINER and A. KLING. Experiments in behavioral changes following paleo cortical injury in cats.

L. SCHREINER and A. KLING. Experiments in behavioral changes following paleo cortical injury in rodents, carnivores, and primates.

J. V. BRADY and W. J. H. NAUTA. Subcortical relationships and behavior in the albino rat.

IV. Miscellaneous Films

1. DIVISION OF GENERAL PSYCHOLOGY

Presidential Address

EDWARD C. TOLMAN. Principles of Performance.

(Slides)

Symposium: Contributions of Child Psychology to General Psychological Theory

(Co-sponsored with Division 7)

ALFRED L. BALDWIN, Chairman

Participants:

DONALD K. ADAMS, HEINZ WERNER, IRVIN L. CHILD

Symposium: Social and Personality Factors in Perception

ELLIOTT MCGINNIES, Chairman

Participants:

RICHARD S. LAZARUS. Selective perception, selective recall, and psychological stress.

A. S. LUCHINS. Methodological problems.

DAVIS HOWES. A statistical formulation of perceptual phenomena.

ELLIOTT MCGINNIES. The current theoretical status of "social perception."

(Slides)

[2] Business meetings, luncheons and dinners, etc. are not included in this listing. For information concerning such meetings, please see the July *American Psychologist.*

Symposium: Conceptual Trends

DONALD R. MEYER, Chairman

Participants:

MASON HAIRE. Industrial psychology.

CHARLES E. OSGOOD. Thinking.

ANN MAGARET. Personality assessment.

DONALD R. MEYER. Cerebral localization.

(Slides)

Symposium: Experimental Applications of Statistical Learning Theories

C. J. BURKE, Chairman

Participants:

CLETUS J. BURKE. Some characteristics of statistical learning theories.

R. R. BUSH and F. MOSTELLER (Sponsor: C. J. Burke). Applications of a stochastic response model.

WILLIAM K. ESTES. Generation of new experimental phenomena by a theory of stimulus variability.

M. M. FLOOD (Sponsor: C. J. Burke). Critical discussion.

J. C. R. LICKLIDER. Critical discussion.

(Slides)

Symposium: Factors in Depth Perception: Theory and Applications

ALBERTA S. GILINSKY, Chairman

Participants:

H. SIDNEY NEWCOMER (Sponsor: A. S. Gilinsky). Cinerama, cinemascope, and the "engulfing" principle.

JAMES J. GIBSON. The perception of space in pictures.

ALBERT H. HASTORF. Empirical and attitudinal factors in space perception.

R. SPOTTISWOOD. The control of stereoscopic space.

CONRAD G. MUELLER. Critical discussion.

(Slides)

Symposium: Program Research in Psychology Today

HARRY F. HARLOW, Chairman

Participants:

ARTHUR W. MELTON. The rationale of program research.

MEREDITH P. CRAWFORD. The planning of program research.

BOYD MCCANDLESS. The maintenance of program research.

PAUL M. FITTS. The criteria for evaluating program research.

HARRY F. HARLOW. The concept of program research.

(Slides)

2. DIVISION ON THE TEACHING OF PSYCHOLOGY

Presidential Address

ELIZABETH B. HURLOCK. Psychologists, Come Out of the Ivory Towers.

Symposium: Presenting Psychology in Popular Media

S. RAINS WALLACE, Chairman

Participants:

GEORGE W. ALBEE. Press coverage of psychology over a 6-month period.

MICHAEL AMRINE, Science writer and APA consultant. Current press relations.

WATSON DAVIS, Director, Science Service. Presenting science to the intelligent reader.

LESTER GUEST. The public's perception of psychology.

Symposium: Goals of the First Course in Psychology

RICHARD P. YOUTZ, Chairman

Participants:

FLOYD L. RUCH. Trends in student interest in psychology.

PAUL E. EISERER. Values of the student-centered approach.

FRED S. KELLER. Order vs. confusion in the first course.

ERNEST R. HILGARD. What shall be postponed for later courses?

Group Discussion: Criteria for Evaluating the Teaching of Basic Psychology

B. VON HALLER GILMER, Chairman; THEODORE LANDSMAN, ROBERT M. TRAVERS

Group Discussion: Psychology in Medical Education

IVAN N. MENSH, Chairman; IJA N. KORNER, ARTHUR WEIDER, ADELLA C. YOUTZ, ROY M. DORCUS

Demonstration and Discussion: Role Playing as a Training Method

ROSEMARY LIPPITT, Chairman

Group Discussion: Teaching Aids in Psychology, with Special Emphasis on Films

ELIZABETH B. HURLOCK, Chairman; SUMNER L. CRAWLEY, VICTOR W. EIMICKE, DAVID LEAKE, NORMAN MUNN

Group Discussion: Teaching Psychology on Television

WILBERT J. MCKEACHIE, Chairman; MARTIN F. FRITZ, ELEROY L. STROMBERG, RICHARD W. HUSBAND, RICHARD I. EVANS

Group Discussion: Should There Be a Core Curriculum for the MA Degree?

WAYNE DENNIS, Chairman; CHARLES N. COFER, RALPH F. BERDIE, DAVID I. HARTSTEIN

3. DIVISION OF EXPERIMENTAL PSYCHOLOGY

Presidential Address

NEAL E. MILLER. Some Studies of Drive and Drive Reduction.

Symposium: Some Psychological Problems in Communications Research

ALPHONSE CHAPANIS, Chairman

Participants:

JOHN E. KARLIN. Psychology in communications research.

BROCKWAY MCMILLAN. Role of information theory.

W. A. MUNSON. Hearing and psychophysics.

M. W. BALDWIN, JR. Subjective measurement in television.

(Slides)

5. DIVISION ON EVALUATION AND MEASUREMENT

Presidential Address

DOROTHY C. ADKINS. The Simple Structure of the American Psychological Association.

Symposium: Situational Performance Tests

(Co-sponsored with Psychometric Society)

JOHN C. FLANAGAN, Chairman

Participants:

BERNARD M. BASS. The leaderless group discussion as a leadership evaluation instrument.

LAUNOR F. CARTER. Recording and evaluating the performance of individuals as members of small groups.

DONALD W. FISKE. The use of situational tests in assessment programs.

E. LOWELL KELLY. An appraisal of the place of situational tests based on experience in evaluating clinical psychologists.

ROBERT L. WEISLOGEL. The development of situational performance tests for various types of military personnel.

Symposium: What Next in Factor Analysis?

(Co-sponsored with Psychometric Society)

LEDYARD R TUCKER, Chairman; CLYDE H. COOMBS, HARRY H. HARMAN, FREDERICK B. DAVIS, RAYMOND B. CATTELL, JOHN W. FRENCH

Symposium: High Speed Computers

(Co-sponsored with Psychometric Society)

LLOYD HUMPHREYS, Chairman; CHARLES WRIGLEY, JOHN M. LEIMAN, FREDERIC M. LORD, EUGENE S. GORDON

7. DIVISION ON CHILDHOOD AND ADOLESCENCE

Presidential Address

ROGER G. BARKER. The Natural History of Children's Behavior in Midwest, U.S.A.

Symposium: Social Psychological Aspects of Physical Disability in Children

(Co-sponsored with Division 12)

T. ERNEST NEWLAND, Chairman

Participants:

TAMARA DEMBO, VIVIAN T. HARWAY, LEE MYERSON, NATHANIEL J. RASKIN, BEATRICE A. WRIGHT

Symposium: The Place of Child Psychology in the Profession of Psychology

ROGER G. BARKER, Chairman

Participants:

URIE BRONFENBRENNER, DALE B. HARRIS

Symposium: Contributions of Child Psychology to General Psychological Theory

(Co-sponsored with Division 1. See Division 1's program.)

8. DIVISION OF PERSONALITY AND SOCIAL PSYCHOLOGY

Presidential Address

O. HOBART MOWRER. Freedom and Responsibility—A Psychological Analysis.

Symposium: The Problem of Dual Loyalties in Union-Management Relations

(Co-sponsored with the Industrial Relations Research Association)

ROSS STAGNER, Chairman

Participants:

THEODORE PURCELL. Empirical investigations on dual allegiance of workers to union and to management.

WILLARD KERR. Empirical investigations on dual allegiance of workers to union and to management.

WALTER GRUEN. A theoretical examination of the concept of dual loyalty.

HJALMAR ROSEN. A methodological examination of studies on dual loyalty.

Symposium: The Application of Bionic Theory to the Study of Groups

HERBERT A. THELEN, Chairman

Participants:

HERBERT A. THELEN. An overview of Bionic theory and the research program of the Human Dynamics Laboratory.

IDA HEINTZ. The application of Bionic theory to the study of individual personality in a group setting.

SAUL BEN-ZEEV. The application of Bionic theory to the study of the total group process.

WILLIAM F. HILL. The application of Bionic theory to the study of subgroup structure and operation.

DOROTHY STOCK. Group growth and development in Bionic theory.

Discussant:

THEODORE M. NEWCOMB

Symposium: The Role of Social Research in Political and Social Decision

(Co-sponsored with Division 9. See Division 9's program.)

Symposium: The Current Status of Empathy as a Hypothetical Construct in Psychology

GRAHAM B. BELL, Chairman

Participants:

H. L. ANSBACHER. Empathy as an Explanatory Concept in Intelligence.

N. L. GAGE. Empathy vs. projection (An empirical fact).

BORIS J. SPEROFF. Measures of empathy.

DONALD SNYGG. Empathy as an explanatory concept in personality.

A. S. LUCHINS. Empathy as an explanatory concept in social psychology.

Symposium: Profits and Problems in the Application of Homeostatic and Other Formal Models in the Behavioral Sciences

JAMES G. MILLER, Chairman

Participants (from the Behavior Science Theory Group, University of Chicago):

JAMES G. MILLER. Introduction. The applicability of the concept of steady state at the levels of cell, organ, organism, small group, and society.

RALPH W. GERARD, Professor of Neurophysiology in the Department of Psychiatry, University of Illinois; Past President of the American Physiological Society. The utility of the organism-social organization analogy.

JACOB MARSCHAK, Professor of Economics and member of the Cowles Commission for Research in Economics, University of Chicago; Past President of the Econometric Society. Formal models of "decision-making" process.

ANATOL RAPOPORT, Assistant Professor and Secretary in the Committee on Mathematical Biology, University of Chicago. The diffusion of message through random transmission nets.

DAVID EASTON, Associate Professor of Political Science, University of Chicago. Difficulties in the utilization of an equilibrium model for an understanding of political phenomena.

DONALD T. CAMPBELL. Problems in the treatment of "habit" as a semi-isolated stable system.

Small Discussion Group: Rigidity of Behavior and the Einstellung Effect

A. S. LUCHINS, Chairman

Pre-meeting communication requested.

Small Discussion Group: Proposals for Research on War Prevention, Based on the Summer Workshop of the Research Exchange on the Prevention of War

HERBERT C. KELMAN and JOHN WITHALL

Small Discussion Group: Psychological Methods in Community Study

S. STANSFELD SARGENT.

Pre-meeting communication requested.

9. SOCIETY FOR THE PSYCHOLOGICAL STUDY OF SOCIAL ISSUES

Presidential Address

DORWIN CARTWRIGHT. Toward a Social Psychology of Groups.

Kurt Lewin Memorial Award Address and Industrial Relations Award Winner Announcement

GARDNER MURPHY. Human Potentialities.

Symposium: Sociological and Anthropological Perspective on Small Group Research

BERNARD G. ROSENTHAL, Chairman

Participants:

EDWARD SHILS. University of Chicago.

GEORGE C. HOMANS. Harvard University.

MUZAFER SHERIF. University of Oklahoma.
RONALD LIPPITT. University of Michigan.
BERNARD G. ROSENTHAL. University of Chicago.

Symposium: The Training of PhD's in Social Psychology

STUART W. COOK, Chairman

Participants:

THEODORE M. NEWCOMB. University of Michigan.
CARL I. HOVLAND. Yale University.
RICHARD L. SOLOMON. Harvard University.
CHARLES Y. GLOCK. Columbia University.
DAVID C. MCCLELLAND. Ford Foundation.

Symposium: The Profession of Psychology and the Social Values of Psychologists

DONALD G. MARQUIS, Chairman

Participants:

M. BREWSTER SMITH. Social Science Research Council.
ALFRED MCCLUNG LEE. Brooklyn College.
FREDERICK WYATT. University of Michigan.
MORRIS JANOWITZ. University of Michigan.
HARVEY SMITH, University of North Carolina.

Symposium: How Can Unesco Use the Resources of Social Psychology?

RENSIS LIKERT, Chairman

Participants:

WALTER H. C. LAVES. Formerly Deputy Director General of Unesco.
DORWIN CARTWRIGHT. University of Michigan.
HERBERT HYMAN. Columbia University.

Symposium: The Role of Social Research in Political and Social Decision

(Co-sponsored with Division 8)

GARDNER MURPHY, Chairman

Participants:

JAMES M. MITCHELL. Assistant Secretary of Army for Manpower.
ALFRED C. WOLF. Director of Program Planning, Office of the Secretary, Department of the Interior.
ELMORE JACKSON. Quaker Representative at the United Nations.

Discussants:

HARVEY S. PERLOFF. University of Chicago.
EUGENE KATZ. The Katz Agency, Inc.

Small Discussion Group: Research Approaches to Questions of Civil Rights and Academic Freedom

MARIE JAHODA and RICHARD CHRISTIE, Co-Chairmen

Committee on Methods of Group Consultation

10. DIVISION OF ESTHETICS

Presidential Address

HERBERT S. LANGFELD. Twice Told Concepts in Aesthetics.

12. DIVISION OF CLINICAL AND ABNORMAL PSYCHOLOGY

Presidential Address

O. HOBART MOWRER. Religion, Psychiatry, and Personality Disorder.

Symposium: The Role of the Psychologist in Work with the Disabled

(Co-sponsored with The National Council on Psychological Aspects of Physical Disability)

KENNETH LUND, Chairman

Participants:

CLEON JOHNSON TRUITT, JAMES W. CURTIS, KATE STILLS ANDERSON, LESLIE D. KNUDSON

Symposium: Social Psychological Aspects of Physical Disability in Children

(Co-sponsored with Division 7. See Division 7's program.)

Symposium: Research in Client-Centered Therapy: A Progress Report

(Co-sponsored with Division 17. See Division 17's program.)

Symposium: The Identification Concept and the Theory of Personality and Psychopathology

JOSEPH ADELSON, Chairman

Participants:

DANIEL R. MILLER. Methodological and conceptual problems involved in the testing of psychoanalytic hypotheses on personality development.
R. NEVITT SANFORD. The theory of early object-relations and re-assessment of current thinking on early ego development.
JOSEPH ADELSON. The use of the identification concept in socialization theory and in the study of social groups.

Symposium: Assessment of Current Trends in Psychodiagnosis

JULIAN H. PATHMAN, Chairman

Participants:

ARTHUR L. BENTON, J. WARREN THIESEN, HOWARD R. WHITE, ALAN K. ROSENWALD, SAUL C. HOLTZMAN

Symposium: Research which Combines Clinical and Experimental Methods

SIBYLLE ESCALONA, Chairman

Participants:

HERBERT F. WRIGHT. The "Midwest Study."

GEORGE S. KLEIN. Clinical techniques embedded in an experimental study.

GEORGE F. MAHL. Methodological difficulties in assessing anxiety in psychotherapeutic interviews.

Symposium: Some Fundamental Issues in the Consulting Relationship

(Co-sponsored with Divisions 13 and 14. See Division 13's program.)

Symposium: An Appraisal of the H-T-P Technique as a Clinical Instrument

ISAAC JOLLES, Chairman

Participants:

HERDIS L. DEABLER. The H-T-P in clinical practice with adults.

MORTON J. BECKER. The H-T-P in clinical practice with children.

V. J. BIELIAUSKAS. Current and proposed research designed to validate the H-T-P.

WILLIAM SLOAN. A critical review of H-T-P validation studies.

Symposium: Teaching Psychotherapy in the University Setting

ALBERT I. RABIN, Chairman

Participants:

EDWARD S. BORDIN, JOHN DOLLARD, STANLEY G. ESTES, WILLIAM U. SNYDER, ALBERT I. RABIN

Symposium: Teaching Psycho- and Sociodynamics

(Co-sponsored with Division 17)

MILTON SCHWEBEL, Chairman

Participants:

KENNETH CLARK, AUSTIN WOOD, PHILIP ZLATCHIN, MILTON SCHWEBEL

Symposium: Developing Psychological Acceptance of the Disability in Counseling Adolescents and Young Adults

(Co-sponsored with Division 17)

SALVATORE G. DIMICHAEL, Chairman

Participants:

SAMUEL A. KIRK. Counseling the mentally retarded.

JAMES F. GARRETT. Counseling the cerebral palsied.

LOUIS S. CHOLDEN. Counseling the blinded.

IRVING S. FUSFELD. Counseling the deafened.

DANIEL H. HARRIS. Counseling the tuberculous.

Symposium: Are Projective Test Data Valid Bases for Prediction?

(Co-sponsored with the Society for Projective Techniques)

MARGUERITE R. HERTZ, Chairman

Participants:

BERTRAM R. FORER, ROBERT G. GIBBY, ROY M. HAMLIN, and PERCIVAL M. SYMONDS

Discussants:

E. LOWELL KELLY, GEORGE A. MUENCH, and RICHARD W. WALLEN

Symposium: Implications for Projective Methods in Recent Developments in Personality Theory

(Co-sponsored with the Society for Projective Techniques)

JULES D. HOLZBERG, Chairman

Participants:

FRANK AULD, JR. Learning theory.

MORTON DEUTSCH. Field theory.

CHARLES W. ERIKSEN. Perception theory.

ROY SCHAFER. Psychoanalytic theory.

Discussants:

GARDNER MURPHY and R. NEVITT SANFORD

13. DIVISION OF CONSULTING PSYCHOLOGY

Presidential Address

MORTON A. SEIDENFELD. The Pathology of Normality.

Symposium: Some Fundamental Issues in the Consulting Relationship

(Co-sponsored with Divisions 12 and 14.)

MORTON A. SEIDENFELD, Chairman

Participants:

PHYLLIS F. BARTELME. Psychological Consultant, National Society for Crippled Children and Adults.

FRANCIS W. HIBLER, Partner in charge of Clinical Service, Rohrer, Hibler and Replogle.

AARON B. NADEL. Deputy Executive Director, Committee on Human Resources, Research and Development Board, U. S. Department of Defense.

MARION W. RICHARDSON. Richardson, Bellows, Henry & Company.

EDWARD I. STRONGIN. Private Practice, also College of Physicians and Surgeons, Columbia University.

14. DIVISION OF INDUSTRIAL AND BUSINESS PSYCHOLOGY

Presidential Address

JAY L. OTIS. Whose Criteria?

Symposium: Management Development—Challenge and Opportunity for Psychology

WALTER R. MAHLER, Chairman

Participants:

HAROLD A. GRAVER. Superior appraisal of subordinate performance.

W. F. HOLMES. Professional appraisal of the individual.

FORREST H. KIRKPATRICK. The challenge—a statement of the problem as viewed by top management.

NORMAN R. F. MAIER. Modifying management behavior.

WENDELL F. WOOD. Research contributions.

Symposium: The Personnel Research Function in Industry

CHESTER E. EVANS, Chairman

Participants:

V. J. BENTZ. Selling research results to management.

HARLAND N. CISNEY. What is needed in research and industry?

ROBERT N. FORD. Continuous measurement of attitude as a personnel function.

JAMES E. OLIVER. Problems encountered in personnel research and industry.

Symposium: Some Fundamental Issues in the Consulting Relationship

(Co-sponsored with Divisions 12 and 13. See Division 13's program.)

Symposium: General Semantics in Industry

C. G. BROWNE, Chairman

Participants:

J. S. A. BOIS. General semantics and executive training.

IRVING J. LEE. General semantics and an approach to committee efficiency.

DUDLEY M. MASON. General semantics and the administrative processes.

JACK MATTHEWS. General semantics and employee selection.

Symposium: The Effectiveness of the Selection Interview in Appraising Personality

ALEXANDER G. WESMAN, Chairman

Participants:

BRENT BAXTER. The effectiveness of the selection interview in appraising personality of supervisory personnel.

PAUL J. BROUWER. The effectiveness of the selection interview in appraising personality of technical personnel.

JAY L. OTIS. The effectiveness of the selection interview in appraising personality of sales personnel.

JOHN P. FOLEY, JR. Discussant

RAYMOND A. KATZELL. Discussant

Symposium: Constructive Failures in Industrial Projects

MICHAEL ERDELYI, Chairman

Participants:

F. K. BERRIEN, BERNARD J. COVNER, HAROLD A. EDGERTON, ROBERT F. PECK

Symposium: Management Behavior and Organizational Effectiveness

DONALD E. BAIER, Chairman

Participants:

GILBERT DAVID. The effect of leadership on group process.

L. RENE GAIENNIE. Supervisory control in establishing procedures for organizational effectiveness.

JOHN H. GORSUCH. Obtaining organizational effectiveness through appropriate assignment of responsibilities in a large corporation.

STANLEY E. SEASHORE. Achieving organizational effectiveness through the implementation of the results of human relations research.

RALPH M. STOGDILL. Research findings on the relationship of determinance of behavior.

Symposium: Personnel Evaluation—Methods and Techniques in Management Selection

HENRY L. SISK, Chairman

Participants:

ROY A. DOTY, ROBERT N. MCMURRY, HENRY D. MEYER

Symposium: Approaches in the Prediction of Job Success

DONALD THISTLETHWAITE, Chairman

Participants:

EUGENE L. GAIER. Isolating dimensions related to mechanical proficiency.

HARRY M. MASON. The subject-matter scope of mechanical job knowledge.

LOUIS L. MCQUITTY. Isolating "types" of "good" and "poor" mechanics.

LAWRENCE M. STOLUROW. Symbolic training in relation to mechanical job success.

Symposium: Value and Use Made of Recently Published Materials in Business and Industrial Psychology

THOMAS W. HARRELL, Chairman

Participants:

ROGER M. BELLOWS. Criteria: Forced-choice ratings.

MILTON L. BLUM. Attitude surveying.

J. ELLIOTT JANNEY. Leadership in industry.

ROBERT B. SELOVER. Recent selection research.

Symposium: What Do We Know About Employee Surveys?

E. R. HENRY, Chairman

Participants:

R. B. BARMEIER. Integrating the survey program with other elements of personnel planning and research.

ROBERT K. BURNS. Ways of interpreting and implementing survey results.

ROBERT L. KAHN. Research results and organizational change.

L. N. LASEAU. Relating survey findings to facts for understanding of "operations" people.

C. P. SPARKS. Some different approaches to determination of morale.

Discussants:

GUY B. ARTHUR, W. R. G. BENDER, H. H. REMMERS, DOUGLAS WILLIAMS

Symposium: Training Psychologists for Industry (Recent Graduates, Working in Industry, Appraise Their Academic Training in Psychology)

DONALD L. GRANT, Chairman

Participants:

ELMER R. JOHN, HARRY E. LOVELESS, JAROLD R. NIVEN

Workshop in Industrial Psychology

Directors:

STEPHEN HABBE, Senior Research Analyst, National Industrial Conference Board.

EDWIN R. HENRY, Research Adviser, Standard Oil Company of New Jersey.

15. DIVISION OF EDUCATIONAL PSYCHOLOGY

Presidential Address

WM. CLARK TROW. The Value Concept in Educational Psychology.

Symposium: Current Contributions to the Psychology of Learning by Research in the Military Services

PAUL TORRANCE, Chairman; GEORGE WISCHNER, IRL IRWIN, EVAN PATTISHALL, RUSSELL N. CASSEL

Symposium: Implications for Educational Psychology of "The Uneducated"

DOUGLAS W. BRAY, Chairman; ROBERT A. BELL, DON C. CHARLES, N. L. GAGE, JULIUS E. UHLANER, ELI GINZBERG, AMBROSE CALIVER

Symposium: Future Progress in Educational and Psychological Measurement

ARTHUR E. TRAXLER, Chairman; MORRIS KRUGMAN, JEROME E. DOPPELT, WALTER N. DUROST, ROBERT L. EBEL, WARREN G. FINDLEY, G. FREDERIC KUDER

16. DIVISION OF SCHOOL PSYCHOLOGISTS

Presidential Address

FRANCES A. MULLEN. Therapy and the School Psychologist.

Symposium: Role of the School Psychologist in Services to the Parents of a Child with a Handicap

(Co-sponsored with the National Society of Crippled Children and Adults)

Morning Session:

MARIA ISCH, Chairman

T. ERNEST NEWLAND. Role of the psychologist as a member of the team of professional workers with parents or a child with a handicap.

Discussion Groups:

a. Role in interpretation of results of psychological evaluation to parents

1. ROBERT WALKER, Chairman; STELLA WHITESIDE, Resource person
2. ROBERT WILSON, Chairman; MARIE SKODAK, Resource person

b. Role in interpretation of results of psychological evaluation to other professional workers

1. JANICE HARRIS, Chairman; ELSA MILLER, Resource person
2. THELMA TYLER, Chairman; ROBERT H. ALEXANDER, Resource person

c. Role as coordinator of services (educational, therapeutic, etc.) in the integration of program development based on individual assets and deficits of handicapped children

1. MAY C. AUSTIN, Chairman; HELEN APPELDOORN, Resource person
2. MARY LUNTIS, Chairman; ROSALIE WALTZ, Resource person

d. Role in long-time counseling of parents

1. PAUL HOLCOMB, Chairman; TOM COLEMAN, Resource person
2. ALMA WARD, Chairman; HARRY BICE, Resource person

e. Role as consultant to parent groups

1. PAUL HAIRPIRCHT, Chairman; VERNA CARLISLE, Resource person
2. VIOLA CASSIDY, Chairman; KATHERN McKINNON, Resource person

f. Role in community education and understanding

1. STEPHANIE RALPH, Chairman; GEORGE FORTUNE, Resource person
2. HAROLD PHELPS, Chairman; MILTON A. SAFFIR, Resource person

g. Role of the psychologist as a member of school administrative staff

1. Sister JOHN BOSCO, Chairman; MARY ELLA HAND, Resource person
2. M. LAVINIA WARNER, Chairman; CLEON JOHNSON TRUITT, Resource person

Afternoon Session:

PHYLLIS F. BARTELME, Chairman

Summary by recorders of morning discussion groups

BOYD MCCANDLESS. Services to parents.

JAYNE SHOVER. Summary and evaluation of symposium.

Discussion Group: Role and Function of the School Psychologist

HAROLD POWELL, Chairman

Presentation by resource people:

ETHEL CORNELL. New York University, Division of Research.

KATHERINE E. D'EVELYN. Garden City, L.I., New York.

MARIA ISCH. Grand Rapids Board of Education.

SAMUEL A. KIRK. Institute for Research on Exceptional Children, University of Illinois.

BEATRICE LANTZ. Division of Research and Guidance, Los Angeles County Schools.

STELLA WHITESIDE. Division of Psychological Services, Cincinnati Public Schools.

Recommendations formulated by discussion groups.

Report of discussion groups to the total group.

Discussion Group: A Training Program for the School Psychologist

HAROLD POWELL, Chairman

Presentation by resource people:

VIRGINIA LEE BLOCK. San Francisco.

T. ERNEST NEWLAND. University of Illinois.

WILDA ROSEBROOK. Bureau Special and Adult Education, Ohio State University.

MILTON A. SAFFIR. Chicago Psychological Guidance Center.

MARIE SKODAK. Psychological Services, Dearborn Public Schools.

D. A. WORCESTER. University of Nebraska.

Recommendations formulated by discussion group.

Report of discussion groups to the total group.

Approval of total recommendations.

17. DIVISION OF COUNSELING AND GUIDANCE

Presidential Address

MITCHELL DREESE. The Uniqueness of the American Point of View in Counseling and Guidance.

Symposium: Research in Client-Centered Psychotherapy: A Progress Report

(Co-sponsored with Div. 12)

CARL R. ROGERS, Chairman

Participants:

ROSALIND DYMOND. Changes in adjustment over a therapy period.

THOMAS GORDON. Changes in attitudes toward others.

DONALD L. GRUMMON. Personality changes over a therapy period and a no-therapy control period.

ESSELYN RUDIKOFF. Some relationships between factors in pre-therapy and self-concepts and outcomes of therapy.

JULIUS SEEMAN. Process as related to counselor judgments.

Symposium: Counseling as a Learning Process

JOHN G. DARLEY, Chairman; ARTHUR W. COMBS, FRANKLIN J. SHAW, EDWARD J. SHOBEN, JR.

Symposium: Communication in the Counseling Situation

WINIFRED SCOTT, Chairman; WILLIAM F. SOSKIN, CLIFFORD P. FROEHLICH, NATHAN KOHN, HAROLD G. SEASHORE

Symposium: Diagnosis in Counseling

ALBERT C. VAN DUSEN Chairman; WILLIAM A. GILBERT, FRANK FLETCHER, HENRY P. WEITZ

Symposium: The Contribution of Research to Counseling

LEONA E. TYLER, Chairman; PAUL L. DRESSEL, GORDON V. ANDERSON, E. GORDON COLLISTER, DOROTHY M. CLENDENEN

Symposium: Teaching Psycho- and Sociodynamics

(Co-sponsored with Division 12. See Division 12's program.)

Symposium: Developing Psychological Acceptance of the Disability in Counseling Adolescents and Young Adults

(Co-sponsored with Division 12. See Division 12's program.)

18. DIVISION OF PSYCHOLOGISTS IN PUBLIC SERVICE

Presidential Address

HERBERT S. CONRAD. Rating the Merit of Merit Systems.

Round Table Discussion Group: Counseling in Prison

WILSON L. NEWMAN, Chairman

Participants:

RAYMOND J. CORSINI, ARNOLD V. GOULDING, ROBERT W. HALLIDAY, GEORGE G. HILLINGER, FREDERICK C. THORNE, WERNER WOLFF

Symposium: The Development of Mental Health Programs

CARL L. ANDERSON, Chairman

Participants:

M. W. MCCULLOUGH. Viewpoint from a State Department of Public Welfare setting.

WM. H. BROWN. Developing state programs from a university setting.

JAMES BENJAMINS. Responsibilities to a metropolitan community.

ERNESTINE B. BLACKWELL. Viewpoint from a public health setting.

19. DIVISION OF MILITARY PSYCHOLOGY

Symposium: The Problem of Military Delinquency

FREDERICK A. ZEHRER, Chairman

Participants:

J. DOUGLAS GRANT, RONALD C. FORCE, BENJAMIN OVERSTREET, WILLIAM R. PERL, HOBART G. OSBURN

Symposium: Selection of Personnel for Hazardous Duties

SAUL B. SELLS, Chairman

Participants:

RICHARD H. GAYLORD, GERALD J. DUFFNER, JOSEPH F. SNYDER, WALTER L. WILKINS, JOHN R. BARRY, JOHN T. BAIR

20. DIVISION ON MATURITY AND OLD AGE

Presidential Address

NATHAN W. SHOCK. The Challenge of Psychological Research on Aging.

Symposium: What Can the Psychologist Contribute on Estimating Fitness to Continue Work in Old Age?

JACOB TUCKMAN, Chairman

Participants:

GEORGE H. JOHNSON. Job performance as a measure of work fitness.

ALBERT I. LANSING. Important physical factors related to continuation in working roles.

ROSE E. KUSHNER. Personality factors related to work in old age.

ALBERT I. RABIN. Changes in mental performance and continuation of work.

Symposium: The Role of Health in Determining Activities for Older People

ROBERT W. KLEEMEIER, Chairman

Participants:

RUTH ALBRECHT. Social factors in the health of older people.

GEORGE K. YACORZYNSKI. Mental health and activity.

WALTER D. OBRIST. Activities and health among institutionalized old people.

GEORGE I. GOODMAN. The physician's evaluation of old-age activities.

JEANNE G. GILBERT. Understanding old age.

Symposium: Personality and Old Age: Evaluation of Some Research

ROBERT I. WATSON, Chairman

Participants:

MARGARET IVES. A Rorschach study of psychosis with cerebral arteriosclerosis.

BETTYE MCDONALD CALDWELL. The role of theory in personality studies of the aged.

EVELYN P. MASON. Factors affecting the self-concept of the aged.

OTHER GROUPS

AMERICAN BOARD OF EXAMINERS IN PROFESSIONAL PSYCHOLOGY

Open Meeting on Examinations and Procedures

INTERNATIONAL COUNCIL OF WOMEN PSYCHOLOGISTS

(Program submitted to APA Program Committee)

Panel Discussion. International Communication: A Psychological Problem

Participants:

AMYIA CHAKRAVARTY, University of Kansas and India.

MARIE JAHODA. New York University.

ARTHUR G. BILLS. University of Cincinnati.

DOROTHY VAN ALSTYNE, Chairman.

PSYCHOMETRIC SOCIETY

(Program submitted to Division 5)

Presidential Address

ROBERT L. THORNDIKE. Who Belongs in the Family?

Symposium: Situational Performance Tests

(Co-sponsored with Division 5. See Division 5's program.)

Symposium: What Next in Factor Analysis?

(Co-sponsored with Division 5. See Division 5's program.)

Symposium: High Speed Computers

(Co-sponsored with Division 5. See Division 5's program.)

SOCIETY FOR PROJECTIVE TECHNIQUES

(Program submitted to Division 12)

Presidential Address

JOHN E. BELL. Projective Techniques and the Development of Personality.

Symposium: Contribution of Projective Techniques to the Understanding of Basic Psychopathology

PAULINE G. VORHAUS, Chairman

Participants:

CHARLOTTE BUHLER. School of Medicine, University of Southern California.

ISABELLE V. KENDIG. Ashton, Maryland.

LESLIE PHILLIPS. Worcester State Hospital.

ZYGMUNT A. PIOTROWSKI. New York State Psychiatric Institute.

GEORGE K. YACORZYNSKI. Northwestern University Medical School.

Discussants:

WALTER G. KLOPFER. Norfolk State Hospital.

T. W. RICHARDS. Louisiana State University School of Medicine.

Symposium: Are Projective Tests Data Valid Basis for Prediction?

(Co-sponsored with Division 12. See Division 12's program.)

Symposium: Implications for Projective Methods in Recent Developments in Personality Theory

(Co-sponsored with Division 12. See Division 12's program.)

Change in time of meetings

Monday, September 7

4:50–6:50 Business Meeting. Society for Projective Techniques. Ballroom, Hollenden

7:30 Dinner and Presidential Address. Society for Projective Techniques. Parlor B, Hollenden

VETERANS ADMINISTRATION CLINICAL PSYCHOLOGY MEETINGS

Round Table on Training

Special Interest Session: Tuberculosis

Special Interest Session: Domiciliary Problems

PSI CHI

Program of Research Papers

NATIONAL COUNCIL ON PSYCHOLOGICAL ASPECTS OF PHYSICAL DISABILITY

JAMES F. GARRETT, Chairman

THE AMERICAN PSYCHOLOGIST

The Professional Journal of the American Psychological Association, Inc.

Volume 8 September, 1953 Number 9

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TEACHING PSYCHOLOGY IN THE SMALL LIBERAL ARTS COLLEGE[1]

ELEANOR OLMSTEAD MILLER

Illinois College

WE who teach in the small liberal arts college constitute a "minority group" in the American Psychological Association. We are little known to our university colleagues and more popular clinical associates, but at the same time the influence we may yield for the future of psychology is out of all proportion to our size. Not only do we represent the profession and the subject to large groups of students, but we are almost the sole source of knowledge about psychology to many future citizens and future state legislators, as well as others who might some day help or hinder psychology as a profession. To present some of the surprising and available facts about us to our uninformed associates is one of the purposes of this article. The other objective is to present vocational information to our many younger APA members who may find opportunities here which they have never considered.

The selection of colleges studied was based on the 1952 survey of American universities and colleges (3). Four hundred and nine accredited four-year colleges of arts and sciences, with enrollments under one thousand, are described in this survey. It should be noted that in order to have a homogeneous group we omitted all technical and professional schools, including teachers colleges. Many of these 409 colleges, however, give some teacher-training as part of their liberal arts program, but they do not consider it their major function.

One hundred and eight of these colleges report no department of psychology. Others combine psychology with other subjects as listed in Table 1.

Although psychology combined with another subject into one department may be quite as well taught as in a separate department, more homogeneous data can be secured by considering more intensively only those 177 colleges which have separate departments of psychology. These colleges are distributed in 40 states in all parts of the country; 23 are in Pennsylvania, 15 in New York, 13 each in Illinois and Ohio, and no more than 7 in any other state.

TABLE 1

PSYCHOLOGY IN 409 COLLEGES OF ARTS AND SCIENCES

Separate department of psychology	177
Psychology and education	78
Psychology and philosophy	18
Psychology and sociology	3
Miscellaneous combinations with psychology	8
Insufficient data given	17
No psychology reported	108

For 108 of these 177 colleges comparable data from the 1932 survey (4) are available. *All* of these colleges have separate departments of psychology now. In 1932 the situation was as indicated in Table 2.

Some progress toward a recognition of psychology in these colleges seems to be evident over this twenty-year period. Some psychologists have furthered this progress and there are many opportunities for such changes elsewhere in the next twenty years.

Going back to the 177 psychology departments of 1952, we then consulted the 1951 Directory of the American Psychological Association (1). Since the survey data are reported for 1951, this gives us comparable data in both sources. Using the geographical index we located all possible APA members in these 177 colleges. That 66 of these 177 colleges, with separate departments of psychology,

TABLE 2

COLLEGES WITH SEPARATE DEPARTMENTS OF PSYCHOLOGY IN 1952 AS THESE DEPARTMENTS WERE REPORTED IN 1932

Separate department of psychology	34
Psychology and education	18
Psychology and philosophy	17
Miscellaneous combinations with psychology	1
Insufficient data	4
No psychology reported	34

[1] The investigation for this article was stimulated by the author's membership on the Committee on Undergraduate Education of the APA Education and Training Board, but the author is solely responsible for opinions expressed in the article.

seem to have no instructor who belongs to the APA may seem insignificant among colleges and universities in general. But considering the fact that many of the colleges report enrollments well above 600, one wonders what contact these large groups of students have with the APA. Few of the colleges indicate special conditions—religious, etc.—which might suggest an explanation. Either the instructors in these departments are not qualified for APA membership or not interested.

Four colleges of the 177 report psychology staffs of five or more and all are engaged in special projects and hence are excluded from our further data.

We now have a group of 107 colleges in which APA members are teaching psychology. These colleges are located in 37 states, well distributed over the country. Ten are in New York, 10 in Pennsylvania, 8 in Illinois, 7 in Ohio, 6 in Iowa, and no more than 5 in any other state. In 58 of these colleges there is one APA member; in 28 there are two members; in 14, three members; and in 7 colleges there are four APA members, making a total of 184 APA members teaching in these 107 colleges. Of course, the colleges may have additional psychology teachers who are not APA members.

Fifty-seven of these colleges are coeducational; 39 are women's colleges; 11 are for men. Their enrollments are indicated in Table 3.

These colleges, therefore, vary widely in size and are well distributed over the United States. What are the characteristics of the 184 APA members teaching in them? Incomplete directory data are given for 36 of these. Of the remaining 148, some interesting information can be presented. Only 47 of the 148 are women and 33 of them are teaching in women's colleges.

Of these 148, 103 have the PhD degree, 5 an EdD, 1 a BD, 3 an MS, 2 a BA, and 34 an MA degree. These degrees were obtained from widely diversified universities and colleges. The 103 PhD degrees were obtained from 40 different American universities and 5 different European universities. Columbia granted 8, Iowa 7, and no other university more than 4.

Certain dates are important for these 148 teachers, as indicated in Table 4.

TABLE 3

1951 ENROLLMENTS OF THE 107 COLLEGES IN WHICH APA MEMBERS ARE TEACHING

100–199	1
200–299	7
300–399	18
400–499	17
500–599	14
600–699	21
700–799	6
800–899	16
900–999	7

TABLE 4

IMPORTANT DATES FOR 148 COLLEGE TEACHERS OF PSYCHOLOGY

Years	Year of Birth	Year of Highest Degree	Year Obtaining Present Position	Associate Membership in APA*	Fellowship in APA
1870–79	1	—	—	—	—
1880–89	14	—	—	—	—
1890–99	32	—	—	—	—
1900–09	29	—	—	—	—
1910–19	39	7	2	1	1
1920–29	29	21	17	5	4
1930–39	—	37	14	35	2
1940–49	—	62	82	77	21
1950–51	—	21	32	24	5
Not given	4	—	1	—	—

* Six members never had Associate status.

Although ages are quite well distributed from 30–60, the peak of academic activity, regardless of age, seems to have occurred in the decade of the 40's.

Did these 148 college teachers of psychology attend small colleges in their undergraduate years? Such an experience might explain their present interest or success in fitting into the life of a small campus. We find, however, that only about half of them received the first degree from a small college. The others had only university experience.

As indication of their professional interests, we can present data regarding APA divisional affiliation. Some of the 148 belong to more than one division; many belong to none at all. General psychology is the greatest interest, with teaching and counseling second, as indicated in Table 5.

As indicated by the scatter of divisional affiliation, these teachers have other professional interests besides teaching. Moreover, they do not show an overwhelming interest in Division 2!

In many cases the other-than-classroom activities have been indicated by the teachers in the APA

Directory. The evidence is not complete, for it is certain that others besides those who indicated them are concerned in these various activities. The largest single interest seems to be in "counseling" as indicated by 20 individuals. In several cases, it is doubtful if these people even do any teaching, for counseling can well be a full-time campus job. Twelve of the group are college deans and one a college president. Other part-time administrative positions are indicated. A third common activity is connected with the college examining or testing service. A few indicate consultation work in their communities, with hospitals, industries, and even in private practice. Small college connections seem to offer, and perhaps too often demand, other kinds of work besides classroom instruction.

TABLE 5

APA DIVISION AFFILIATIONS OF 148 COLLEGE TEACHERS

Division No.	*N*
1	24
2	17
3	10
5	10
7	14
8	12
9	10
10	4
12	10
13	—
14	3
15	9
16	2
17	17
18	1
19	2
20	4

Five of the group are Diplomates in Counseling, five in Clinical, and two in Industrial fields.

A big question deals with research. What evidence do we have regarding the amount and kind done by this group? Consulting the *Psychological Abstracts* for 1950, 1951, and 1952, we find nearly 70 references to material published by about half that number of our group. The articles abstracted appeared in many of the usual journals: *Journal of Experimental Psychology, Journal of Applied Psychology, Journal of Social Psychology, American Psychologist, Psychological Bulletin, Journal of Projective Techniques,* etc. Some articles appeared in such applied fields as *Occupations, Personnel Psychology, Journal of Higher Education,* etc. There were books, textbooks, parts of books, and monographs. Only a few references were to theses. All in all, some of the small college personnel seem to show up well in research! Whether they experienced the difficulties Claude Buxton pointed out in his recent address and article (2) we cannot tell, but the evidence shows that it can be done, at least by a few.

It is probable that we could do much more research if we proceeded along different lines than are indicated by most of this reported research. Except for the articles in the applied fields, we seem in general to attempt the same kind of experimental approach that the university researcher does and perhaps does better. If we made more use of the "phenomenological approach" (6), we might find that the greater intimacies of the small college campus would give us opportunities not easily available on a larger campus. Perhaps some enterprising leaders who could organize cooperative research throughout many colleges could help to find evidence on psychological problems thus far ignored or untouched.

What is taught in these small colleges has been discovered only in part. The survey by Fillmore Sanford and Edwin Fleishman (5) included a sampling of these colleges as well as other kinds of institutions. The Cornell Report (7) makes valuable suggestions for small college curricula, but so far we do not know what the college teachers think of it, nor even if they have read it!

Certain assumptions on the basis of our data can be made. Whatever is taught in the psychology departments of these colleges is usually taught by one or two instructors. It is evident, therefore, that the small college teacher of psychology is somewhat like the general practitioner in medicine. Whatever may be the criticisms leveled against us, narrow specialization in subject matter cannot be one of them. Another situation is obvious. Having no colleagues, or at least only one or two, in the psychology department, we find our professional companionship with faculty members in other fields. In the long run this is probably good, for we learn perforce to relate our subject to other disciplines. At the same time we need, far more than do our university brethren, the frequent stimulation which comes from meeting and talking with others in our own field from other institutions. We probably need workshops and seminars which, of course, we should organize for ourselves, although we seldom do.

This same professional situation may also have

its advantages. Our independence gives us the opportunity of building up a department or laboratory, which has already been done in the universities. The real pioneers in the teaching of psychology can have a free hand in most small colleges, within the framework of that institution. Any instructor, coming to a college for the first time, would do well to study not only the history of the institution, but also the history of the psychology department. For it is upon this history that he must build for the future.

But who better than a psychologist should know how to start with what he finds and lead on as far as possible? Who better than a psychologist should be able to bring about the desirable changes? Helen Wolfle, in her most revealing article regarding placement activities, told us in 1950 that one of the "vacancies of a recurring type, for which it is difficult to find enough candidates" includes "Experimental psychologists, to teach the introductory course, the experimental laboratory and other assorted courses; with PhD, usually men. . . . It is frequently most difficult to find men who will fit in well with the other faculty members of denominational colleges" (8, p. 200).

The 148 teachers of our group have apparently overcome these difficulties and some of them are teaching in colleges which might be classed as denominational. How they have done it; what, if any, concessions they make within the framework of the college; what advantages and disadvantages they have experienced within this framework, we know only through scattered conversations among individuals. Much information of value might be available if those conversations had been recorded.

It seems almost certain that the situation in these colleges is different today from what it was even twenty-five years ago. Most of the colleges went through a long period when psychology was really "mental philosophy." Some colleges, not on our special list, are probably still in this period. In only a few colleges was this period succeeded by the experimental development most commonly found in the history of university departments. It was more likely to have been succeeded by a period when psychology really served some other department, such as education, in its applied aspects. Many departments are still in this stage. If psychology is to emerge in these colleges as a separate department in its own right; if it is to demonstrate the value of learning for its own sake as well as for the alleged "applied" value; if it is to utilize and teach the experimental and possibly the clinical techniques, the services of an academic pioneer are required.

And the return for this pioneer work? Not at all commensurate with the time and energy required! Like most pioneer work, the work itself must give some of the satisfaction of the job. At the present time the situation is especially unfortunate because of the current enrollment and military problems of the small colleges. But that situation is transitory. When the next influx of students comes into the colleges, as is anticipated within a few years, we all hope they will find an increasing number of enthusiastic teachers of psychology to pass on the knowledge and understanding of their subject and to stimulate wider interest and encouragement for the profession as a whole.

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RECENT UNDERGRADUATE ORIGINS OF SCHOLARS IN THE BEHAVIORAL SCIENCES

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A REPORT on the recent undergraduate origins of scholars, *The Younger American Scholar,* by the two senior authors, was published this year by the University of Chicago Press. Its five main findings were that institutions differed in the quantity of scholars produced per unit time and in the efficiency of the production of scholars, and that productivity was significantly related to the geographical location of the institution, the type of institution, and the cost of attendance. The present paper is the result of a similar analysis of that portion of the data of the major study which applied to scholars in the behavioral sciences of psychology, anthropology, and sociology. The question we are trying to answer with respect to undergraduate institutions is, where do behavioral scientists come from?

In the present investigation, the method was the same as in the previous one. The earlier study, sponsored by the Fund for the Advancement of Education, sought first to compile a roster of persons who received their bachelor degrees between 1946 and 1951 and who showed promise of achievement, and second to analyze the achievements of over five hundred colleges and universities. Four broad categories of distinctions were chosen as criteria for inclusion in the roster. (*a*) Individuals who, from 1948 to 1951, received doctorates from the 25 largest graduate schools of the nation. (These 25 institutions produced about 75 per cent of all PhD's from 1948 to 1951.) (*b*) Individuals receiving fellowships of $400 or more (or equivalent in tuition) from any one of these 25 institutions. (*c*) Individuals receiving awards for graduate study between 1946 and 1951 from the government through any of three channels: the Fulbright program, the Atomic Energy Commission, and the U. S. Public Health Service. (*d*) Individuals receiving grants from nine of the more prominent and active private foundations awarding fellowships between 1946 and 1951. From these four sources about 25,000 names were brought together for the roster, each individual being identified by name, sex, undergraduate institution, year of graduation, field of graduate study, and nature and year of award. In order to assess contemporary achievement, only those individuals who had received their bachelor degrees since 1946 were retained so that the roster used in the analysis was cut down to about 7,000 names. It should be mentioned at this point that there are many other ways of defining distinction, and that the results to be discussed apply only to the techniques we have used. The same consideration should be kept in mind about our techniques of analysis.

The first step in the major study was the computation of an index of scholastic productivity which could be applied impartially to all institutions, regardless of size. The 7,000 awardees were classified by their undergraduate institutions, and the total number of male and female graduates of each institution was obtained elsewhere. For each of the schools, then, the rate per thousand at which their male and female graduates were numbered among persons in our roster was computed as the index of productivity for that institution. This procedure allowed us to compute indices for 562 of the 820 accredited colleges and universities in the United States. The remaining 258 failed to contribute a single individual to our roster. It is interesting to note that only 51 institutions had male indices of more than ten per thousand, and only twelve yielded female indices exceeding the same amount. The achievements of this top group are particularly noteworthy in comparison with the low productivity of the great bulk of the institutions in our study.

The next step was to order the institutions into four relatively homogeneous samples. These were (*a*) 139 small privately supported liberal arts colleges, (*b*) 91 larger universities with full graduate programs, (*c*) 38 technological institutions, and (*d*)

54 women's colleges. The residual cases fell essentially into two groups: first, a number whose graduates were so few that reliable indices could not be evolved, which we called the small group; and second, a group of miscellaneous institutions, excluded for one or more reasons from the regular groups, which we called the B group.

Third, each institution was placed in one of five geographical areas: New England, Middle Atlantic, South, Middle West, and Pacific and Mountain. Finally, the institutions were classified in quintiles as far as cost of attendance was concerned.

For the present study, the procedure was the same, except that the roster was cut down once again, to individuals in the behavioral sciences. Eight and one-tenth per cent of all males, or 474 of them, and 15.8 per cent of all females, or 165 of them, constitute this final roster, with the indication that women appear *relatively* to be more frequently attracted to the behavioral sciences than do men.

Table 1 shows that of the more than 500 institutions classified according to the procedure of the earlier study, only 198 institutions, or less than one-quarter of all U. S. accredited colleges and universities, graduated one or more awardees in behavioral science between 1946 and 1951. Over one-third of these institutions fall into the university sample. The comparative mean rate of achievement for the different samples is shown in Table 2 as well as the actual number of such individuals in each sample. It will be seen that the rate per thousand varies from group to group, with the technical schools and B group conspicuously inferior in yield to the liberal arts and university groups. The women's sample is unusually productive, but the index for the small sample is probably not meaningful, because of the biased selection of this group (only small institutions which had produced at least one awardee were included).

TABLE 1

INSTITUTIONS IN THE SAMPLE CONTRIBUTING ONE OR MORE BEHAVIORAL SCIENTISTS, CLASSIFIED ACCORDING TO TYPE OF INSTITUTION

Sample	Institutions		Graduates	
	No. Contributing	No. in Sample	Sum Male	Sum Female
University	72	91	564,339	151,393
Liberal arts	45	139	119,112	37,776
Technical	9	39	104,767	
Small	25	110	24,281	22,006
Women	15	53		52,584
B group	32	113	186,810	88,676
Totals	198	545	999,309	352,434

TABLE 2

NUMBER AND RATE OF PRODUCTION OF BEHAVIORAL SCIENTISTS BY THE SIX TYPES OF INSTITUTIONS

Sample	No. Male Awards	Male Index	No. Female Awards	Female Index
University	323	.57	72	.47
Liberal arts	64	.54	22	.58
Technical	11	.10	1	
Small	14	.57	16	.73
Women			37	.70
B group	60	.32	16	.18
Totals	472		164	

Recognizing that both total number of individuals produced and the efficiency of their production have faults as assessments of the productivity of an institution, the first because it may conceal exceptional relative achievement in smaller institutions, and the second because it lacks reliability for smaller institutions, we included both pieces of information in Table 2.

Table 3 shows those institutions producing four or more awardees in the behavioral sciences. Of the 198 institutions contributing one or more names to our roster, less than half of them, or 96, contributed more than one, 51 of these being in the university group. It is clear that there is a marked skewing when absolute numbers are considered, the top ten institutions claiming one-third of all the awards considered in this report.

Table 4 presents the same information about the production of psychologists alone. In it are entered the total number of psychologists, both male and female, produced by institutions graduating four or more awardees during the interval studied. Entered also is the rate per thousand index for both males and females.

To return to the production of behavioral scientists in general, Table 5 presents the rate of production per thousand, or efficiency index, for all institutions graduating more than a single male

TABLE 3

INSTITUTIONS PRODUCING FOUR OR MORE BEHAVIORAL SCIENTISTS, RANKED ACCORDING TO NUMBER PRODUCED

Institution	Total Awardees	Male Awardees	Female Awardees
1. Chicago, Univer. of	33	26	7
2. Yale Univer.	24	24	0
3. California, Univer. of	24	17	7
4. Wisconsin, Univer. of	23	17	6
5. Harvard Univer.	22	22	0
6. Ohio State Univer.	19	13	6
7. Minnesota, Univer. of	18	13	5
8. Iowa, State Univer. of	17	16	1
9. Brooklyn Coll.	16	13	3
10. Michigan, Univer. of	15	8	7
11. Columbia Univer.-Barnard Coll.	14	9	5
12. CCNY	13	12	1
13. Northwestern Univer.	13	8	5
14. Cornell Univer.	13	7	6
15. Illinois, Univer. of	11	7	4
16. Pennsylvania, Univer. of	10	7	3
17. Hunter Coll.	10	0	10
18. Oberlin Coll.	9	5	4
19. New Mexico, Univer. of	9	6	3
20. New York Univer.	9	8	1
21. Swarthmore Coll.	8	7	1
22. Antioch Coll.	6	3	3
23. Princeton Univer.	6	6	0
24. Boston Univer.	6	5	1
25. Purdue Univer.	6	6	0
26. Reed Coll.	5	4	1
27. Radcliffe Coll.	5	0	5
28. Miami Union Coll.	5	2	3
29. Cincinnati, Univer. of	5	5	0
30. Vanderbilt Univer.	5	5	0
31. So. California, Univer. of	5	5	0
32. Texas, Univer. of	5	4	1
33. Wayne Univer.	5	3	2
34. Vassar Coll.	4	0	4
35. Smith Coll.	4	0	4
36. Buffalo, Univer. of	4	3	1
37. Brown Univer.	4	4	0
38. Amherst Coll.	4	4	0
39. Rutgers Univer.	4	4	0
40. Stanford Univer.	4	4	0
41. Temple Univer.	4	4	0

awardee and whose index is 1.0 or greater. Some institutions, having only a single awardee, yield very unreliable indices, and some very small institutions likewise have indices which are unreliable though numerically large; both of these should be accepted with great caution. In this table, as well as in the table showing comparable data for female awardees, Table 6, it will be observed that there is again a very marked skewing, the highest index in each distribution being over nine, while well over 90 per cent of the institutions considered in our study have an index of less than 1.0.

For purposes of generalization, cost of attendance and geographic location were examined in relation to the rate of production of behavioral scientists. Only the university and liberal arts groups were considered, and only the male awardees. Table 7 shows the mean male index for each group, as a function of cost of attendance quintile. It will be noticed that the samples are remarkably similar, and that in both the university and the liberal arts cases the most costly fifth is approximately three times as productive as any of the remaining four fifths. This confirms the very high productivity of the more costly institutions as noted in the earlier study prepared for the Fund for the Advancement of Education, in which the superiority

TABLE 4

INSTITUTIONS PRODUCING FOUR OR MORE PSYCHOLOGISTS, WITH NUMBER PRODUCED AND RATE OF PRODUCTION

Institution	Total Awards	Awardees		Indices	
		Male	Female	Male	Female
1. CCNY	12	11	1	0.8	0.1
2. Harvard Univer.	10	10		1.0	
3. Iowa, State Univer. of	10	10		1.4	
4. California, Univer. of	9	9		0.3	
5. Illinois, Univer. of	9	6	3	0.3	0.6
6. Brooklyn Coll.	8	7	1	1.6	0.2
7. Chicago, Univer. of	8	5	3	1.3	2.1
8. Wisconsin, Univer. of	8	7	1	0.4	0.2
9. Columbia Univer.	7	4	3	0.5	1.2
10. Cornell Univer.	7	4	3	0.6	1.3
11. Minnesota, Univer. of	7	6	1	0.3	0.2
12. Swarthmore Coll.	7	6	1	8.0	2.5
13. New York Univer.	6	5	1	0.3	0.1
14. Purdue Univer.	6	6		0.5	
15. Yale Univer.	6	6		0.8	
16. Northwestern Univer.	5	5		0.6	
17. Brown Univer.	4	4		1.2	
18. Hunter Coll.	4		4		0.6
19. Miami Univer.	4	2	2	1.4	0.6
20. Michigan, Univer. of	4	3	1	0.2	0.2
21. So. California, Univer. of	4	4		0.3	
22. Vanderbilt Univer.	4	4		1.8	

TABLE 5

INSTITUTIONS PRODUCING MORE THAN ONE MALE BEHAVIORAL SCIENTIST PER THOUSAND GRADUATES, WITH RATE AND NUMBER OF PRODUCTION

Institution	Sample	Male Index	No. Awards	No. Male Graduates	Institution	Sample	Male Index	No. Awards	No. Male Graduates
1. Swarthmore Coll.	L. A.	9.3	7	752	20. Williams Coll.	L. A.	1.7	3	1692
2. Reed Coll.	L. A.	8.8	4	452	21. Johns Hopkins University	Univer.	1.6	3	1922
3. Drew Univer.	Small	7.5	2	265	22. Beloit Coll.	L. A.	1.6	1	612
4. Chicago, Univer. of	Univer.	6.8	26	3832	23. Howard Univer.	B group	1.4	2	1435
5. Goshen Coll.	Small	6.3	2	315	24. Princeton Univer.	Univer.	1.3	6	4570
6. Antioch Coll.	L. A.	5.9	3	307	25. Wittenberg Coll.	L. A.	1.3	2	1500
7. Oberlin Coll.	L. A.	4.1	5	1230	26. Marietta Coll.	L. A.	1.2	1	847
8. Cal. Inst. Tech.	Tech.	3.2	3	974	27. Tufts Coll.	B group	1.2	3	2590
9. Haverford Coll.	L. A.	3.2	2	632	28. Brown Univer.	Univer.	1.2	4	3442
10. Yale Univer.	Univer.	3.1	24	7735	29. Cincinnati, Univer. of	Univer.	1.2	5	4027
11. Brooklyn Coll.	B group	3.0	13	4345	30. Columbia Univer.	Univer.	1.2	9	7317
12. Amherst Coll.	L. A.	2.5	4	1632	31. Union Coll.	L. A.	1.1	2	1742
13. Vanderbilt Univer.	Univer.	2.3	5	2212	32. Wisconsin, Univer. of	Univer.	1.1	17	15077
14. New Mexico, Univer. of	Univer.	2.3	6	2662	33. Catholic Univer.	Univer.	1.1	2	1762
15. Iowa, State Univer. of	Univer.	2.3	16	6997	34. St. Ambrose Coll.	L. A.	1.0	1	965
16. Kalamazoo Coll.	L. A.	2.2	1	457	35. Bucknell Univer.	L. A.	1.0	2	1985
17. Harvard Univer.	Univer.	2.1	22	10557	36. Pennsylvania, Univer. of	Univer.	1.0	7	7002
18. Wesleyan Univer.	L. A.	2.0	2	1020	37. Cornell Univer.	Univer.	1.0	7	7245
19. Queens Coll.	B group	1.8	2	1095					

TABLE 6

INSTITUTIONS PRODUCING MORE THAN ONE FEMALE BEHAVIORAL SCIENTIST PER THOUSAND GRADUATES, WITH RATE AND NUMBER OF PRODUCTION

Institution	Sample	Female Index	No. Awards	No. Female Graduates	Institution	Sample	Female Index	No. Awards	No. Female Graduates
1. Drew Univer.	Small	9.3	1	107	20. Cornell Univer.	Univer.	2.5	6	2372
2. Antioch Coll.	L. A.	7.8	3	507	21. Miami Univer.	B group	2.0	3	1465
3. Loretta Heights Coll.	Small	7.1	2	292	22. Louisville, Univer. of	B group	1.8	1	560
4. Reed Coll.	L. A.	6.4	1	157	23. Michigan, Univer. of	Univer.	1.6	7	4440
5. St. Ambrose Coll.	L. A.	6.2	1	160	24. Hunter Coll.	Women	1.6	10.	6250
6. Seton Hill Coll.	Women	6.2	3	480	25. Smith Coll.	Women	1.6	4	2502
7. Rockford Coll.	Small	5.9	2	337	26. Geo. Washington Univer.	Univer.	1.5	2	1372
8. Grinnell Coll.	L. A.	5.4	2	372	27. Pennsylvania, Univer. of	Univer.	1.4	3	2115
9. Kalamazoo Coll.	L. A.	5.3	1	190	28. Tulane Univer.	Univer.	1.3	1	780
10. Radcliffe Coll.	Women	5.1	5	977	29. San Diego State Coll.	B group	1.2	1	785
11. Chicago, Univer. of	Univer.	4.9	7	1440	30. Ohio State Univer.	Univer.	1.2	6	4842
12. Marietta Coll.	L. A.	4.8	1	207	31. Northwestern Univer.	Univer.	1.2	5	4095
13. Oberlin Coll.	L. A.	4.0	4	1002	32. Columbia Univer.-Barnard Coll.	Univer.	1.2	5	4175
14. Florida, Univer. of	Univer.	3.9	3	775	33. Wisconsin, Univer. of	Univer.	1.2	6	5075
15. New Mexico, Univer. of	Univer.	3.4	3	877	34. Buffalo, Univer. of	Univer.	1.1	1	880
16. Bryn Mawr Coll.	Women	3.0	2	665	35. Louisiana State Univer.	Univer.	1.1	2	1765
17. Vassar Coll.	Women	2.7	4	1502	36. Roosevelt Coll.	B group	1.0	1	1025
18. Swarthmore Coll.	L. A.	2.5	1	397	37. Ohio Wesleyan Univer.	L. A.	1.0	1	1040
19. Beloit Coll.	L. A.	2.5	1	407					

of the most costly fifth was clearly evident for all types of scholars. As for geographic location, Table 8 shows that again there is a close correspondence in the regional achievements of both groups, the weighted mean for achievement being relatively low in the South and Mountain and Pacific areas, high in the Middle West and Middle Atlantic areas. Essentially the same relationships were found for scholars in general in the earlier study.

TABLE 7

BEHAVIORAL SCIENCE PRODUCTIVITY INDEX OF INSTITUTIONS CLASSIFIED INTO QUINTILES ACCORDING TO COST OF ATTENDANCE

Cost Quintile	University Index	Liberal Arts Index
Lowest fifth	0.4	0.3
Medium-low fifth	0.3	0.3
Middle fifth	0.5	0.3
Medium-high fifth	0.5	0.4
Highest fifth	1.3	1.2

TABLE 8

BEHAVIORAL SCIENCE PRODUCTIVITY INDEX OF INSTITUTIONS CLASSIFIED INTO FIVE GEOGRAPHICAL LOCATIONS

Location	University Index	Liberal Arts Index
New England	1.4	0.7
Middle West	0.7	0.6
Middle Atlantic	0.5	0.6
Pacific and Mountain	0.4	0.3
South	0.2	0.2

In summary, using the indices of the production of behavioral scientists which we have devised, there are clear differences among institutions with respect to quantity of behavioral scientists produced and the rate of efficiency of their production. The rate of production is highest in the costliest fifth of institutions, and in those in New England, the Middle West, and the Middle Atlantic regions.

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THE SSRC AND PSYCHOLOGY

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Social Science Research Council

THE dual affiliation of psychology with the biological and the social sciences is aptly symbolized by its participation in both the National Research Council and the Social Science Research Council. Stevens (12) has recently described the stake of psychology in the NRC. If, as he assumes, the nature of this stake has been obscure to many psychologists, there is certainly no less obscurity surrounding the relation of psychology to the SSRC. The present account is intended to complement Stevens' article by describing psychology's part in this cooperative organization for the furtherance of research in the social sciences.

As compared with the NRC, the SSRC is a relative newcomer. Its formal existence began in 1923, when under the leadership of the late political scientist, Charles E. Merriam, representatives of the American Political Science Association, American Sociological Association, and American Economic Association agreed upon the framework of a permanent organization. Late in 1923, invitations to membership were extended to the American Statistical Association, the American Psychological Association, and the American Anthropological Association. The APA accepted membership in December, 1924, and the present roster of seven associated societies was completed in 1925 with the affiliation of the American Historical Association.

The Board of Directors of the Council is composed of three directors elected for three-year terms by each of these societies, and eight directors-at-large elected for two-year terms by the board itself. From the beginning of APA participation, the following have represented psychology on the board:

Robert S. Woodworth	1925–28
Robert M. Yerkes	1925–26
Floyd H. Allport	1926–27, 1929–31
Knight Dunlap	1927–29
Henry T. Moore	1928–30
John E. Anderson	1930–32
Mark A. May	1931–33, 1937–39, 1940–42
Carl C. Brigham	1932–34
L. L. Thurstone	1933–35
Gardner Murphy	1934–36
A. T. Poffenberger	1935–37, 1938–40, 1941–43
Gordon W. Allport	1936–38
R. M. Elliott	1939–41, 1942–44
Walter S. Hunter	1943–45
Harold E. Jones	1944–46
Robert R. Sears	1945–47, 1948–50, 1951–53
Willard C. Olson	1946–48
Carl I. Hovland	1947–49
Lyle H. Lanier	1949–51
Otto Klineberg	1950–52
Douglas McGregor	1952–54
Ernest R. Hilgard	1953–55

Sears, McGregor, and Hilgard currently represent the APA. In addition, Donald G. Marquis is a director-at-large.

To speak of directors as "representing" the APA, however, is to falsify a state of affairs that is a substantial though little recognized achievement of the SSRC. The social scientists who have given living continuity to the Council over the years have not functioned as "representatives" of the interests of their particular discipline; there has been a minimum of the log-rolling or pie-cutting that might be expected of a representative body. Psychologists in Council discussions may often not sound at all like psychologists; likewise with their colleagues from other fields. Sometimes the Council has been more active in one field; sometimes in another. The shifting focus of these activities has been guided, however, by concern with concentrating effort at the strategic points at which greatest gains may be anticipated in raising research standards and opening the way to new advances.

That this policy has acquired the standing of established tradition is to the credit of the statesmanship of the directors and staff during the Council's formative years. It has also been given institutional recognition in the structure of the Problems and Policy Committee, the most important standing committee of the Council. In this committee, elected by the Board of Directors, ongoing Council policy is shaped. The fact that its members need not be chosen from the Board of Directors permits a continuity and flexibility of operation that contributes substantially toward the functioning of the SSRC as a whole that is more than the sum of its parts. Psychologists presently

on the P & P Committee are Douglas McGregor and Robert R. Sears.

The SSRC came into existence in the postwar reaction against excessive compartmentalization in the social sciences. The departmental barriers that had to be overcome are perhaps typified by an incident from the early days of the Council: "the introduction to each other of three Council members, each a most important figure in his own field, and all from the same university" (9). The ambitions of the organizing group were relatively modest, with no provision initially for a paid permanent staff. But the Council appeared on the scene at the time that foundations were first taking a serious interest in research in the social sciences, an interest which, indeed, it helped to foster. As a focus for planned development in a period of expansion and, sometimes, an intermediary between the foundations and social scientists at the universities, the SSRC played such an essential role that its activities grew rapidly in scope.

Noteworthy as a major source of this new support for social science research in the twenties was the Laura Spelman Rockefeller Memorial, under the direction of Beardsley Ruml. Early grants from this foundation, no longer in existence, provided for the expenses of general administration and planning. A general project fund of $750,000 received from the Memorial in 1927 launched the Council on a temporary phase in which it was itself cast in the role of a foundation with free funds to support research. Major support for administration and particular projects has since come from a number of other foundations, most notably the Rockefeller Foundation, the Carnegie Corporation, the Russell Sage Foundation, and recently, the Ford Foundation. In 1952, the Rockefeller Foundation appropriated $1,500,000 to the Council as capital endowment, to replace its previous periodic grants, toward the expenses of general administration and research planning. Flexibility is assured by the provision that after ten years the principal may be drawn on for current expenses, at the discretion of the SSRC. The Council can therefore plan for the first time on a relatively secure if not opulent future.

Since 1927, the SSRC has maintained its central offices in New York at 230 Park Avenue. Much of the committee activity centers in this suite overlooking Park Avenue and conveniently near to the Grand Central Terminal. Pendleton Herring, a former professor of government at Harvard who has been president of the Council since 1948, has his office there, and the publications of the Council are handled from this address. Offices are maintained in Washington at 726 Jackson Place N.W., under the direction of Elbridge Sibley. Here the Council's fellowship and grant-in-aid programs are administered. Since 1946, Harold E. Jones of the University of California at Berkeley has served as the Council's representative on the Pacific Coast.

So much for the bare bones of organization. But what does the SSRC do? What activities are of particular concern to psychologists? A review of policy in 1928–29 summarized the Council's objectives under seven rubrics:

I. Improvement of Research Organization
II. Development of Personnel
III. Enlargement, Improvement, and Preservation of Materials
IV. Improvement of Research Methods
V. Facilitation of the Dissemination of Materials, Methods, and Results of Investigations
VI. Facilitation of Research Work
VII. Enhancement of the General Appreciation of the Significance of the Social Sciences.

While the work of the Council can be seen in terms of these seven general headings, much of it can be categorized at once more simply and more specifically under two: fellowship and grant-in-aid programs, and research-planning activities. Both of these lines of activity contribute importantly to the Council's perennial concern with raising the quality of research in the social sciences.

From the beginning, the training of competent research personnel has been a prime concern, and the fellowship program a principal means toward that end. A directory of SSRC fellows from 1925 to 1951 (10) lists 1,028 persons who held fellowships during the first quarter century of the Council's existence, among them 74 psychologists. Of longest standing is the program of predoctoral and postdoctoral Research Training Fellowships, of which about 40 were awarded for the year 1953–54. Following the Council's usual practice with fellowship programs, a committee of social scientists appointed by the SSRC makes the awards. The SSRC staff devotes a great deal of time to personal interviews with applicants, in which the details of the student's program may often be considerably revised. It believes that these efforts are amply justified through their impact on the improvement of training for research.

While the predoctoral-postdoctoral level has over the years been the focus of the most extensive SSRC fellowship programs, recent activities have directed attention to earlier and later stages of the research career. In 1950–51, a small five-year program of Faculty Research Fellowships was inaugurated. These fellowships, to which a number of psychologists have been appointed, are designed to free half of the time of highly promising young faculty members for research over a three-year period, at the crucial stage in which they might otherwise lose the impetus toward productivity in the heavy teaching duties that normally befall the junior instructor.

At the undergraduate level, the SSRC is beginning in 1953–54 an experimental program of undergraduate research stipends, in the hope "that a period of first-hand research at a time when career choices are often made will afford qualified students an opportunity to consider the scientific study of human behavior as a career, and will also be in itself a valuable educational experience not usually available in college curricula" (11). Selection is made in the junior year. Holders of the stipends work during the summer under faculty supervision, and bring their projects to completion as part of their academic work in the senior year. Perhaps half of the undergraduate stipend holders will be awarded first-year graduate study fellowships. Funds are available for some 40 appointments a year for three years.

Another new SSRC activity concerned with the improvement of research training was the Summer Institute in Mathematics held in 1953 at Dartmouth College under the guidance of the Council's Committee on Mathematical Training of Social Scientists. Designed to equip students at the graduate and faculty levels to understand the fundamental mathematics essential to the use of mathematical models and reasoning in the social sciences, the institute is to be repeated for a second year, probably in the summer of 1954. Study grants were awarded to a considerable proportion of those enrolled in 1953.

Mention should also be made of the long-standing program of Grants-in-Aid of Research. Offered to mature social scientists to help meet the expenses of their own research projects, these modest awards are designed to recognize the needs of the individual scholar and scientist that may sometimes tend to be neglected in this day of organized research and large budgets.

Apart from the fellowship program, the survey, appraisal, and research-planning projects carried on by Council committees or staff have been the prime means toward the Council's central objective—improving the quality of social science research. The small research-planning staff is responsible for continuing exploration of frontiers of knowledge in the social fields. The areas which hold greatest promise of significant progress in research are identified through their explorations and those of the various planning committees of the Council, the central Committee on Problems and Policy, or the Board of Directors. The 25-odd research-planning committees listed in the Annual Report for 1951-52 include committees on Cross-Cultural Education, Identification of Talent, Linguistics and Psychology, Political Behavior, Psychiatry and Social Science Research, Scaling Theory and Methods, and Social Behavior. These committees, appointed by the Problems and Policy Committee, draw on able social scientists from university and other centers of research activity. While members of the Council's Board of Directors normally participate in one or more committees, the committee program enlists a much wider base of participation among the nation's social scientists.

In establishing new committees or in terminating old ones, no attempt is made to cover the social sciences systematically; the governing considerations concern the balance between immediate needs and resources, and the broader strategy of advance. Committees function effectively when a common interest unites a group of social scientists—sometimes highly diverse in perspective—who are themselves engaged in research and can profit from joint consideration of their problems. They have perhaps been most productive when they have served to crystallize an emerging research area or one in need of reformulation, bringing together workers from adjacent disciplines who might otherwise not have had the occasion to collaborate. But the Council seeks to avoid making a fetish of the interdisciplinary approach.

What do the committees do? There is no single pattern of committee activity. Some have set out to map their research areas, and undertaken methodological surveys, planning memoranda, bibliographies, and the like. A few have functioned initially as intermittent seminars the impact of

which is to be discerned primarily in the developing research of the committee members. Some have drawn up plans for research programs that have ultimately led to independent arrangements between foundations and universities for their support. Occasionally, foundations have granted funds directly to the Council to support projects planned in SSRC committees.

Since its early experience with administering a substantial general research fund, the Council has sought to concentrate on planning and stimulating research rather than supporting or administering it directly. In this way, it has been felt, its finite resources can be used with the most far-reaching effect. With only a small staff, the SSRC has no facilities for itself conducting research operations. In the minority of instances in which the Council assumes administrative responsibility for specific major projects, the actual research is likely to be done on the university campuses. When committees have laid out work that they want to see done, the preferred course has generally been to bring the people qualified to do the work together directly with the potential sources of support.

A few examples involving psychological problems may give a more concrete picture of the various aspects of committee activity. The Committee on Personality and Culture, appointed in 1930, helped to give focus to the germinal developments under that heading. Among the undertakings sponsored by its Subcommittee on Competitive-Cooperative Habits (Gordon Allport, Gardner Murphy, and Mark May, chairman) were work under the direction of Margaret Mead on competition and cooperation among primitive peoples (7) and a research planning report by Mark May and Leonard Doob (5). John Dollard's *Criteria for the Life History* (3) was another outcome of this enterprise. Allport's related monograph (1) on personal documents in psychological research was an outgrowth of the activities of another SSRC committee.

In the early forties, a similar role was played by the Committee on Social Adjustment and its subcommittees. From the work of this highly productive committee—to mention a few products familiar to psychologists—came Woodworth's survey of research on twins and foster children (13), Sears' *Survey of Objective Studies of Psychoanalytic Concepts* (8), McNemar's appraisal of opinion-attitude methodology (6), Barker, Wright, and Gonick's survey of research on adjustment to physical handicap (2), and Horst's monograph *The Prediction of Personal Adjustment* (4).

The Committee on Social Behavior, formed in 1951, is in a sense heir to the same broad area of concern. Under the chairmanship of Robert R. Sears, a Subcommittee on Socialization has been undertaking exploratory studies in preparation for the concerted application of cross-cultural methods to this area of research. A Development Fund granted to the Council in 1950 by the Ford Foundation has supported conferences and exploratory work in the field of social behavior.

Two projects now in progress are instances in which the Council has assumed administrative responsibility for work arising from its committees. An intensive study of the 1952 election under the direction of Angus Campbell of the Survey Research Center is being supported by a grant to the Council from the Carnegie Corporation. The close participation of the SSRC Committee on Political Behavior in the planning of the study marks a new level of collaboration between political scientists and social psychologists.

Rather different in character is a three-year program of studies of the impact of American experience on foreign students, under the direction of the Committee on Cross-Cultural Education. On the premise that "program evaluation" would be premature without more systematic understanding of the process by which foreign students from diverse cultures adjust first to the United States, then to their home countries, exploratory studies have been started among four national groups, including both students now in this country and former students being interviewed abroad. On the basis of these initial studies, which in this country are decentralized on four campuses, it is planned to frame more systematic research to answer the more aptly formulated questions that emerge from them.

No account of the Council's activities would be complete without mention of conferences as an aspect of the planning process. Conferences are a medicine to be used with restraint, but play nevertheless an indispensible role in the Council's work. Occasionally a well-prepared conference with publishable proceedings serves as a landmark in the emergence of a field, or as a device for focusing attention on a neglected but important topic. More often it is the small, informal working group in which desirable communication can take place most

effectively. Often a single such conference adequately serves to explore the problem for which it was called, and leaves lines of informal communication in its wake that do not require the offices of the SSRC for their continued existence. Sometimes, on the other hand, a conference gives shape to its problem in a way that leads appropriately to the appointment of a Council committee for its further development. Conferences are often held to aid in formulating the task of a proposed committee and to explore the persons who have most to contribute.

If the SSRC is defined by its work, then, its locus is rather in the colleges and universities where a new generation of social scientists is being trained and members of Council committees engage in research, than in its offices in New York and Washington. The activities of its central planning staff, nevertheless, aim at a responsible source of continuity, ever concerned with the strategy of scientific advance. At a time when psychology is growing rapidly at its social boundary, psychologists have a considerable stake in this flexible institution that exists to facilitate scientific development in the social fields.

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GOVERNMENT SUPPORT OF PSYCHOLOGICAL RESEARCH

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The National Science Foundation

THE purpose of this paper is to present current information on the extent of the Federal Government's support of research in psychology and closely related areas by means of contracts and grants with colleges, universities, and other nongovernmental research agencies. The support of science by the Federal Government has aroused general interest recently (3, 4, 5) and with specific reference to psychology this interest has been reflected in two symposia (9, 10), in numerous informal discussions, and in a report from the APA Central Office (1).

The data reported here have been obtained from one (8) of a series of studies of Government-sponsored research programs being made by the National Science Foundation. These studies are being conducted on a continuing basis by the Foundation in partial fulfillment of its statutory responsibilities with respect to determining the impact of present support policies of the Federal Government upon research and education in the sciences. It is hoped that the information resulting from the studies will be of considerable value both to those who administer Federal research programs and to those who are concerned with the effects of such programs on colleges and universities. At the very least, the reports resulting from the studies will furnish more detailed and more reliable figures on the extent and the distribution of such support than have been available previously.

There are numerous problems relating to the support of psychological research by the Government, but we are concerned here only with the extent of such support. For the purposes of this discussion, "support" is defined as the annual rate of obligation [1] of funds as of June 30, 1953, by the agencies concerned. It is intended that this will be the first of a series of annual reports so that systematic information will be available from year to year on: (*a*) the amount and the source of "extramural" support available for psychological research from the Federal Government; (*b*) the relative emphasis being placed upon different areas of psychology through such support; and (*c*) the dispersion of the funds on a geographic basis.

There are certain limitations and circumscriptions on the data and on our presentation of them. It should be understood that they cover only funds which are available for psychological and closely related research [2] being done *outside* of government agencies and institutions, i.e., they should *not* be confused with the amount of support going to *in-service* or *"intramural"* programs. The data cover only *"unclassified"* research, i.e., they do *not* include research carrying a security classification. The data on dispersion of funds are presented by geographic region rather than by institutions which receive support. For those wishing it, information on the amount of funds received by specific institutions from the Federal Government is generally available in the annual reports of the comptrollers of the institutions. To the degree that it is considered to be public information, it also may be obtained directly from the government agency concerned, frequently in the form of a regularly issued document.

The total annual rate of funds obligated by all agencies of the Federal Government which make contracts or grants for psychological research was approximately $11,000,000 [3] as of June 30, 1953.

[1] "Obligations" are funds *committed* during a given fiscal year, whether or not such funds are *expended* during that fiscal year. *Expenditure* of funds obligated for research may thus extend over a period of time beyond the year in which the *obligation* is made.

[2] "Closely related" refers to the ends of the psychology continuum as it merges into both sociological and psychiatric research. We have attempted to include from these ends only research which is primarily psychological in nature. Research on "economic psychology," for example (see *Amer. Psychologist*, 1953, 8, 202) is not included but rather is reported under Economics in the Foundation's "Quarterly Report of Government-Sponsored Projects in the Social Sciences," a companion report to (8).

[3] It is estimated that if one were to include obligated funds for *classified* contract research, this figure would be increased to at least 12 million dollars.

Ten agencies reported obligations for such research in the amounts shown in Table 1. Funds administered by the Department of Defense make up the largest percentage of the total, amounting to 78.2 per cent, as compared with 15.4 per cent from the Department of Health, Education, and Welfare (National Institutes of Health), and 6.4 per cent from all other sources.

Table 2 shows the distribution of the funds among the fields of psychology. In determining such a distribution, one is limited first by the categorization scheme which is utilized, and secondly by the reliability with which contracts and grants may be assigned to the various categories. With reference to the scheme itself, we have been guided to a considerable extent by the breakdown of psychology as used by *Psychological Abstracts*. The assignment of projects to categories was made on the basis of several kinds of information, including: original assignment to some field of psychology by the program director of the agency supporting the research; abstracts of the projects; published reports from the projects; personal information from the principal investigator; and, in a few cases, simply from the title of the project (a none-too-satisfying method, we can assure you).

Considering the extent of support of psychological research by the military agencies, the range of the support over the fields of psychology is very wide. Personnel psychology, long an accepted need in the military, obtains the lion's share (36.5 per cent). Although we have not attempted systematically to relate the support by fields to the agencies furnishing the funds, that going into social psychology (20.9 per cent) stems largely from the Office of Naval Research and the Human Resources Research Institute (Air Force), while traditional "experimental" psychology (physiological; complex processes; learning and retention) (16.7 per cent) is supported to some extent by all agencies. Although only a comparatively small amount of extramural support is indicated for clinical research (9.5 per cent), which comes almost exclusively from the National Institute of Mental Health, it should be kept in mind that there is extensive intramural support for clinical research, especially in Veterans Administration hospitals.

The geographic distribution of research funds, whether from the Government or from private foundations, has been of considerable interest to many people. From time to time published articles have pointed out the apparent advantage of some areas of the country as compared to others in the matter of research funds-getting (6), and there are several groups which are active in attempting to correct what they perceive to be a maldistribution of these funds. To make a meaningful evaluation of the distribution of research monies, several factors other than sheer geography must be considered. It is important, for example, to take into account the number of research institutions in the different geographic areas and the characteristics of these institutions. In addition, some supporting agencies seek research for the purpose of solving specific and immediate problems in the most expeditious fashion, whereas the motivation in the case of other programs is the general support of research or the stimulation of research potential.

TABLE 1

ANNUAL RATE OF SUPPORT OF EXTRAMURAL RESEARCH IN PSYCHOLOGY AND RELATED AREAS BY AGENCIES OF THE FEDERAL GOVERNMENT (AS OF JUNE 30, 1953)

Agency	Annual Rate (Obligations)	Percentage of Total
Department of Defense	$8,567,518	78.2
Air Force	$4,456,831	40.7
Army	1,286,943	11.7
Navy	2,823,744	25.8
Dept. of Health, Education, & Welfare (NIH)	1,694,115	15.4
Dept. of State (Internat. Info. Admin.)	329,200	3.0
National Science Foundation	95,867	.9
Dept. of Agriculture (Office of Exper. Stations)	94,000	.9
Federal Civil Defense Admin.	90,000	.8
National Advisory Comm. for Aeronautics	65,000	.6
Veterans Administration	19,500	.2
Total	$10,955,200	

TABLE 2

ANNUAL RATE OF SUPPORT OF EXTRAMURAL RESEARCH IN PSYCHOLOGY AND RELATED AREAS BY FIELD (AS OF JUNE 30, 1953)

Field		Annual Rate (Obligations)	Percentage of Total
Physiological psychology		$1,058,069	9.7
General	$291,650		
Vision	277,909		
Audition	259,220		
Other sensory processes	91,648		
Nervous system	137,642		
Complex processes		347,145	3.2
Learning & retention		414,490	3.8
Developmental psychology		351,006	3.2
Personality		208,175	1.9
Social psychology		2,294,633	20.9
Social organization	709,880		
Social disorganization	280,200		
Interpersonal relations	584,610		
Intergroup relations	23,500		
Public opinion & communications	696,443		
Clinical psychology and psychiatric research		1,046,548	9.5
Mental health	369,469		
Diagnosis & therapy	440,268		
Psychosomatics	134,922		
Psychoses	101,889		
Personnel psychology		3,998,034	36.5
Basic ability research	168,512		
Job analysis & specifications	410,177		
Selection, classification, & criterion research	2,144,349		
Training	1,001,730		
Psychometrics	273,266		
Human engineering		1,197,100	10.9
General		40,000	.4
Total		$10,955,200	

The selection of recipients of research funds thus depends to a large degree upon the aims of the agency involved.

As mentioned previously, we have chosen to treat the dispersion of research funds on the basis of geographic region, rather than on the basis of either individual states or institutions receiving the funds. Table 3 shows by geographic region the distribution of Federal funds supporting psychological research.[4] The regions are ranked according to total annual rate of support. In composing the regions, a scheme developed largely on a "socio-economic-educational" basis was adopted (7). Also indicated in Table 3 are the number of institutions receiving funds for psychological research within each region, and the number of these which are educational institutions as contrasted to other types such as consulting firms or hospitals. For purposes of discussion we have shown in addition the number of departments of psychology which have granted at least one PhD degree in the years 1949–52, and the total number of PhD degrees in psychology which have been granted within the years 1949–52 by all departments within each geographic area (2).

If one assumes that the research-performing capacity of a region is related to such indices as the number of PhD degrees granted in that region, or by the number of active graduate departments, the dispersion of government funds for the support of extramural research in psychology appears to be equitable with reference to geographic region. For example, there is perfect agreement in the rank order of support to educational institutions and the total number of PhD degrees in psychology granted in the three years indicated by all educational institutions within the regions. Using as a criterion

[4] The discrepancy between the total annual rate of obligations as shown in Table 3 and that shown in Table 1 is due to the fact that five projects are being supported at foreign institutions.

the number of graduate departments which granted at least one PhD degree in the years 1949–52, there are two discrepancies in the rank order in that the Central and Middle Atlantic regions are reversed in the first and second ranks in respect to funds received by educational institutions, and the New England and Southeast regions are reversed in ranks four and five. It is interesting to note the number of institutions which are not educational institutions but which receive research funds. It would appear that opportunity to do research in psychology outside of the traditional academic setting is good, particularly in the Middle Atlantic region.

It may be of interest to psychologists to compare the total amount of Federal Government support of psychological research at educational institutions with the total research and development effort of the Federal Government at such institutions. In Table 4, therefore, we have shown the amount of funds from the Federal Government which were obligated for the support of research and development at educational institutions, according to scientific fields, for the year ending June 30, 1952 (4).

There is no need here to go into the details of what, precisely, constitutes an "educational institution" or how "Biological," "Medical," and "Agricultural Sciences," etc. are defined (the detailed study [4] is available from the Government Printing Office for those who may be interested). However, it should be pointed out that the term "educational institutions," as used in Table 4, is comparable to our usage with reference to educational institutions receiving funds for psychological research (Table 3).

As compared with the total Federal Government support of research and development at educational institutions as of June 30, 1952, which amounts to approximately $280,400,000 (Table 4), support of psychological research in such institutions amounts to approximately $8,119,000 (Table 3), or about 2.9 per cent of the total, over a comparable period of time. This percentage would be raised somewhat if we were to include "classified" research in the figure for psychological research.

Psychological research is supported under three of the subheadings indicated in Table 4, namely, "Biological," "Medical," and "Social Sciences," and a more meaningful comparison than that above would be to compare the total support for psychological research with the total for these three general areas of science. If we do so, we find that the total support for Biological, Medical, and Social Sciences amounts to approximately $49,320,000, and that psychological research amounts to ap-

TABLE 3

ANNUAL RATE OF SUPPORT OF EXTRAMURAL RESEARCH IN PSYCHOLOGY AND RELATED AREAS BY GEOGRAPHIC REGIONS (AS OF JUNE 30, 1953)

Region	Total Annual Rate*	Percentage of Total	Instit's. Receiving Research Funds	Annual Rate to Educ. Instit.	Percentage of Total to Educ. Instit.	Educ. Instit's. Receiving Funds	Educ. Instit's. Granting at least 1 PhD 1949–52	PhD Degrees Granted 1949–52
Central (Ohio, Ind., Ill., Mich., Wis., Minn., Iowa, Mo.)	3,937,471	36.2	28	3,735,629	46.0	20	17	595
Middle Atlantic (N. Y., N. J., Pa., Del., Md., D. C., W. Va.)	3,485,058	32.0	53	1,789,453	22.0	24	21	583
New England (Me., N. H., Vt., Mass., R. I., Conn.)	1,399,941	12.9	23	918,634	11.3	13	7	100
Far West (Wash., Oreg., Nev., Calif.)	1,261,442	11.6	14	972,796	12.0	9	8	167
Southeast (Va., N. C., S. C., Ga., Fla., Ky., Tenn., Ala., Miss., Ark., La.)	599,881	5.5	20	572,500	7.1	18	8	67
Southwest (Okla., Tex., N. Mex., Ariz.)	100,866	.9	4	41,916	.5	2	3	39
Northwest (N. Dak., S. Dak., Nebr., Kans., Mont., Idaho, Wyo., Colo., Utah)	99,066	.9	7	88,066	1.1	6	5	39
Total	10,883,725†		149	8,118,994		92	69	1590

* Obligations.

† The discrepancy between this total and previous totals for annual rate is due to the elimination from the table of five projects being carried out at foreign institutions.

TABLE 4

FEDERAL FUNDS FOR EXTRAMURAL SCIENTIFIC RESEARCH AND DEVELOPMENT AT EDUCATIONAL INSTITUTIONS ACCORDING TO SCIENTIFIC FIELDS (YEAR ENDING JUNE 30, 1952)

Scientific Field		Total (millions of dollars)
Life Sciences		$ 53.83
Biological	14.30	
Medical	26.09	
Agricultural	13.44	
Physical Sciences		217.64
Physical	101.21	
Mathematical	9.75	
Engineering	106.68	
Social Sciences		8.93
Total		$280.40*†

* Includes funds for "classified" research as well as "unclassified."
† Does not include a sum of $17.82 millions which was obligated for "Increase of Research and Development Plant," largely in the Physical Sciences.

proximately 16.5 per cent of this total. Again, the larger figure includes some funds for "classified" research which is not true of the figure for psychological research, but it is a relatively small proportion and may be ignored for practical purposes.

At this writing there is, of course, much speculation as to what the future holds with respect to the support of psychological research by the Federal Government. There is little question that the atmosphere in Washington reflects a desire for economy, and there is no doubt that pending budget reductions will eventually show up to some extent in psychological research support programs.

Although it is too early to specify precisely just what the effect of economy moves will be, carry-overs from last year's budget and contracts which were let late in fiscal 1953 (through June 30, 1953) will do much to prevent the level of support from dropping in calendar year 1954. It is quite certain that the relatively small amount of funds for the support of basic psychological research under the National Science Foundation program will be increased, and there is every reason to believe that there will be an expanded extramural research support program for psychology under the auspices of the National Institute of Mental Health. Reductions in effort will undoubtedly be characteristic of research support programs in the Department of Defense. The resultant of these increases and decreases will no doubt be some reduction in the total support for research in psychology. However, there is feeling in some quarters that a reasonable reduction might sharpen support programs somewhat, and one should certainly be cautious in interpreting economy measures with respect to research and development budgets as "anti-intellectual" or "anti-science" policy on the part of the Federal Government. As a matter of fact, a review of actions on the Federal Budget as a whole, taking into consideration fixed programs such as veterans compensation, etc. shows that reductions in all "controllable" programs are higher than reductions in research and development programs.

It is hoped that the information which has been reported will be of some use in considering the many issues which are currently at hand with respect to the support of science by the Federal Government, particularly the support of psychological science. It is also hoped that these issues will be given considerable thought by psychologists, so that eventually we will be able to contribute some rational bit to their resolution.

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Manuscript received July 15, 1953

RECOMMENDATIONS CONCERNING STANDARDS FOR THE UNSUPERVISED PRACTICE OF CLINICAL PSYCHOLOGY

DIVISION OF CLINICAL AND ABNORMAL PSYCHOLOGY,
COMMITTEE ON PRIVATE PRACTICE

This committee report was submitted to the APA Board of Directors at its meeting in April 1953. The Board took no action on the content of the report but voted that it should be published. It is the Board's hope that APA members will consider and discuss the committee's recommendations.—ED.

THE question of who shall engage in the unsupervised practice of clinical psychology is obviously important and debatable. It involves such issues as the protection of the public from unqualified practitioners, the internal policing by psychologists of their own ranks, and the carrying out of public protection and internal policing without undue infringement upon the democratic rights of competent psychologists to practice within the keeping of their own consciences. Particularly at the present time, when the functions of clinical psychologists and of members of related professions are still in the process of crystallization, it is necessary that the setting up of standards for the unsupervised practice of clinical psychology be approached in a responsible and sober manner.

Some may contend that the situation regarding psychological practice is in such a state of flux that no standards whatever may be justifiably established at present. This Committee takes the stand, in view of the increasing number of psychologists who are now engaging in unsupervised practice and the necessity for us to protect the public from inadequately trained psychologists, that now some general guideposts, at least, are necessary. It is such guideposts that this Committee has set itself to consider.

At the start, the Committee wishes to emphasize that there should be no essential or necessary difference between the work of psychologists who engage in noninstitutional practice and those who do equivalent work in institutions or agencies. Both deal with patients or clients, and both should assume the same responsibilities toward these patients or clients, toward other members of their own and allied professions, toward the general public, and toward themselves. The intragroup differences among noninstitutional psychologists and among institutional and agency psychologists in regard to procedures used, referral sources, types of clients seen, etc., are enormous and significantly overlap the intergroup differences.

The seemingly essential differences of supervision and professional consultation between practicing and institutional psychologists are often more surface than real. Many contemporary clinical psychologists who work in institutions may have full supervisory and consultative relationships with members of allied professions while others have little or none. Similarly, many practicing psychologists may be directly supervised by control analysts or other supervisors and may engage in close consultative relations with other psychologists or members of allied professions while others may have little or no supervision. The important difference is not noninstitutional versus institutional practice but the nature of supervision and/or consultation. In consequence, this Committee strongly feels that while no special standards need be set up for psychologists engaging in noninstitutional practice, some special qualifications should be expected from all clinical psychologists engaging in nonsupervised and nonconsultative activities.

In regard to psychologists engaging in unsupervised practice, the Committee feels that the general codes that are now being established by the APA and by some state psychological associations are to be endorsed. It would particularly like to approve the statement which has been adopted by members of the New York State Psychological Association:

> It is unethical for a psychologist to offer service outside his area of training and experience or beyond his level of competence. (*a.*) Pending the adoption of state licensing and certification by this organization, each member of this Association is obligated to restrict his unsupervised practice to those fields in which he has had adequate preparation. (*b.*) Psychologists who shift areas of specialization are obligated first to obtain such training and experience in the new area as is necessary to ensure that the services they offer meet the same high standards expected of persons initially trained in the area. (*c.*) A psychologist in professional practice must not use affiliations with other profes-

sional persons or with institutions to imply a level of professional competence which exceeds that which he has actually achieved.

The Committee feels that additional and more specific guideposts are also needed. It would therefore like to suggest that the following standards be followed by those psychologists who engage in the unsupervised practice of clinical psychology. In suggesting these standards, the Committee would like to emphasize that they *not* be considered retroactive, but be made to apply *only* to psychologists who begin to engage in unsupervised and nonconsultative clinical activities *after* such standards have been formally adopted by recognized psychological organizations to which they may belong. The Committee would also like to emphasize that it is recommending the adoption of these specific standards *only* for psychologists who engage in clinical work that is unsupervised, and that it is making no special recommendations of standards to be followed by those who engage in supervised practice.

The Committee recommends the following *minimum* standards for all psychologists engaging in the unsupervised practice of clinical psychology:

1. A doctor's degree or its equivalent in clinical psychology based in part upon a psychological dissertation conferred by a graduate school of recognized standing.

2. At least two years of paid full-time experience, or its accumulated equivalent of paid experience, in the field of clinical psychology; this experience to be had under the direct supervision of a clinical psychologist of recognized standing. Included in this two years of paid full-time experience may be a maximum of one year's paid internship in clinical psychology.

3. At least one year of paid full-time experience, or its accumulated equivalent, in the field of clinical psychology in a treatment setting where mildly and seriously disturbed individuals are commonly seen (e.g., a mental hygiene clinic, a mental hospital, a university clinic, or a child guidance clinic). This year of paid full-time experience in a treatment setting may be obtained in the course of the two years of paid full-time experience mentioned under Point 2, or it may be otherwise acquired.

The Committee recommends the following *additional* standards for clinical psychologists engaging in the unsupervised practice of clinical psychodiagnosis (including mental testing, remedial diagnosis, the use of projective and nonprojective personality instruments, etc.):

4. At least fifty hours of direct supervision in any psychodiagnostic specialty which the psychologist utilizes in his unsupervised practice (that is, fifty hours spent with a supervisor in addition to time spent in actual testing). This fifty hours of supervision may be obtained in the course of the paid full-time experience mentioned under Points 2 or 3, or it may be otherwise acquired. To be acceptable, supervision in any psychodiagnostic specialty must be had under the direct supervision of a clinical psychologist or other professional worker of recognized standing in this specialty.

The Committee recommends the following *additional* minimum standards for psychologists engaging in the unsupervised practice of any form of counseling or psychotherapy (including marriage counseling, clinical vocational counseling, nondirective or client-centered counseling, psychoanalytic psychotherapy, etc.):

5. At least one hundred hours of direct supervision in any counseling or psychotherapeutic specialty which the psychologist utilizes in his unsupervised practice (that is, one hundred hours spent with a supervisor in addition to time spent with clients or patients). This hundred hours of direct supervision may be obtained in the course of the paid full-time experience mentioned under Points 2 or 3, or it may be otherwise acquired. To be acceptable, supervision in any counseling or psychotherapeutic specialty must be had under the direct supervision of a clinical psychologist or other professional worker of recognized standing in this specialty.

6. Anyone who engages in the unsupervised practice of counseling or psychotherapy should be aware of his own possible inadequacies, blind spots, and psychological traumatizations. To this end, it is desirable that he experience some type of personal counseling or psychotherapy himself with a clinical psychologist or other professional worker of recognized standing.

7. Anyone who engages in the unsupervised practice of counseling or psychotherapy should maintain open lines of communication with other professional workers with equivalent training and experience, and should especially communicate freely with medical and other professional consultants when he is treating patients or clients who may be seriously maladjusted.

The Committee finally recommends that the foregoing suggestions be presented to the membership of the APA for purposes of discussion, and that, on the basis of such discussion, a revised set of recommendations on standards for the unsupervised practice of clinical psychology be drawn up and submitted to the appropriate APA and APA Division committees, to ABEPP, to the state psychological associations, and to other psychological organizations for possible incorporation into the professional codes of such psychological groups.

The (1952) Committee on Private Practice of the Division of Clinical and Abnormal Psychology of the APA:

KATHERINE BRADWAY — EMANUEL K. SCHWARTZ
MARY S. KUNST — BOHDAN ZAWADSKI
CHARLES L. ODOM — ALBERT ELLIS, *Chairman*

PROCEEDINGS OF THE FORTY-FIFTH ANNUAL MEETING OF THE SOUTHERN SOCIETY FOR PHILOSOPHY AND PSYCHOLOGY

OLIVER L. LACEY, *Secretary*
University of Alabama

THE forty-fifth annual meeting of the Southern Society for Philosophy and Psychology was held at Austin, Texas, April 2–4, 1953. All section and business meetings were held on the campus of the University of Texas. The host institution was the University of Texas. Local arrangements were under the efficient direction of G. V. Gentry, Ira Iscoe, Philip Worchel, R. R. Blake, and Karl M. Dallenbach. The Program Committee consisted of E. G. Ballard, R. L. Rein'l, H. N. Lee, W. J. Griffiths, J. B. Morris, J. B. Wolfe, and the Secretary.

The Council of the Society met on the evening of April 2. Those present were President Willis Moore, Oliver L. Lacey, William M. Hinton, Edward G. Ballard, Karl M. Dallenbach, Stanford C. Ericksen, Gerard Hinrichs, Glenn Negley, Herbert C. Sanborn, and Karl Zener.

Preceding the formal program, members of the Society were cordially invited to attend the dedication ceremonies in connection with Mezes Hall, the new psychology building at the University of Texas. The program proper began with an open house at the Mezes Hall on Thursday night. Three sessions in philosophy and seven sessions in psychology were held on Friday. On Saturday morning there was a symposium on "Contributions to Operation Research" with Karl M. Dallenbach presiding. Chairmen of the philosophy sections were: Fritz Marti, Lewis M. Hammond, and Glenn Negley. Chairmen of the psychology sections were: Fred Attneave, William M. Hinton, John F. Dashiell, Philip Worchel, Arthur J. Riopelle, Frank A. Geldard, and M. C. Langhorne.

At the Society's annual banquet on Friday night Dr. Willis Moore delivered the presidential address, entitled "The Nature and Causal Antecedents of the Current Attack on Education."

Minutes of the Annual Business Meeting

President Moore called the meeting to order at 11 A. M. Saturday. The minutes of the forty-fourth annual business meeting were approved. The report of the Secretary was read and received, and the report of the Treasurer was read and approved. The latter report indicated a balance of $1,053.70 in the treasury as of March 25, 1953.

In the absence of Dr. A. G. A. Balz, as a result of illness, no report was made of the activities of the Southern Humanities Conference. Dr. Balz was reappointed to serve as delegate of the Society to this conference for the current year.

On recommendation of the Council, nine new associate members and nineteen new members were elected to the Society, and John E. Muthard was elected to full membership from the status of associate member. The associate members are: Robert F. Cahill, Ernest Wayne Dewey, Anna Marie Fischer, John Roderick Hallum, Keith Warren James, Armin Klein, Jr., Alfred Stern, Barbara Watson, and Samuel Woodrow Williams.

The full members are: John Reagan Barry, Morton Edward Bitterman, Frank Cunningham, Sing-nan Fen, Lucius Garvin, Carl F. Hereford, D. R. Kenshalo, Joseph Louis Kovar, John Carson McGuire, Douglas A. R. Peyman, Martha Mary Pingel, John Mansley Robinson, Benjamin George Rosenberg, Elizabeth Taylor Sheerer, Allen Ralph Solem, Kenneth Streib Teel, James Martin Vanderplas, Robert Clifton Whittemore, and Don Lacy Winfield.

A number of miscellaneous items stemming from the Secretary's report were acted upon. The general policy of the Society of nonsegregation at all official functions was confirmed. In view of the small amount of business developing, the Standing Advisory Committee was discontinued. The statement of principles of academic freedom and tenure formulated by the American Association of University Professors and the Association of American Colleges in 1940 was endorsed, and the Secretary was instructed to inform the American Association of University Professors of this action.

Invitations to the Society for the 1954 meetings were presented by members from St. Louis and Atlanta. The business meeting recommended to the Council that the Atlanta invitation be accepted.

It was recommended that the Council consider favorably the possibility of scheduling the business meeting immediately following the presidential address on Friday night.

The following officers and Council members were elected by the Society: President, Karl M. Dallenbach; Council Members, Charles A. Baylis and M. C. Langhorne. William M. Hinton and Oliver L. Lacey continue as Treasurer and Secretary respectively.

The Society unanimously recorded its gratitude to the University of Texas and to the Committee on Local Arrangements for their hospitality. The meeting was adjourned at 12:10 P.M.

PROGRAM

PHILOSOPHY

Friday Morning Session

Section 1: Theory of Knowledge and Logic

FRITZ MARTI, Chairman

Immediateness and reflection. LAUCHLIN D. MACDONALD, *University of Mississippi.*

Memory as a condition of knowledge in Plato, Aristotle, and Augustine. LEWIS M. HAMMOND, *University of Virginia.*

Reason and faith in explanation. RICHARD L. BARBER, *Tulane University.*

Congruence and measurement. WILLIAM S. WEEDON, *University of Virginia.*

The definition and uses of isomorphism. H. M. JOHNSON, *Tulane University.*

Friday Afternoon Sessions

Section 2: Metaphysics and Ontology

LEWIS M. HAMMOND, Chairman

Some speculations on the themes of Parmenides. R. L. REIN'L, *Louisiana State University.*

The range of dyadic ontologies. JAMES K. FEIBLEMAN, *Tulane University.*

Whitehead's reinterpretation of teleology and values. R. A. TSANOFF, *The Rice Institute.*

Time and Whitehead's God. ROBERT C. WHITTEMORE, *Tulane University.*

Mind and computing machines. JAMES STREET FULTON, *The Rice Institute.*

Section 3: Values

GLENN NEGLEY, Chairman

Truth and beauty. CHARLES P. BIGGER, III, *University of Mississippi.*

Ideal facts and empirical values. ANNA FORBES LIDDELL, *Florida State University.*

Man in the light of Socratic method. EDGAR H. HENDERSON, *Florida State University.*

The Bachelor of Arts and statecraft. FRITZ MARTI, *Marietta College.*

Communism and the problem of academic freedom. HERBERT C. SANBORN, *Vanderbilt University.*

Notes on graphic design. GERARD HINRICHS, *The Johns Hopkins University.*

PSYCHOLOGY

Friday Morning Sessions

Section A: Learning

FRED ATTNEAVE, Chairman

Discrimination learning and relearning in monkeys with lesions of the temporal lobes. ARTHUR J. RIOPELLE AND HARLOW W. ADES, *Emory University.*

The strength of sensory preconditioning. P. C. REED, A. L. KUBOLA, AND M. E. BITTERMAN, *University of Texas.*

Simultaneous and successive discrimination as a function of stimulus similarity. E. F. MACCASLIN, *AAF Human Research Unit, Fort Knox, Kentucky,* AND M. E. BITTERMAN, *University of Texas.*

Discrimination learning of paired visual stimuli by white rats. PAUL E. FIELDS, *USAF School of Aviation Medicine.*

The effects of massing and distribution of extinction trials on the persistence of a fear-motivated instrumental response. BARBARA WEDEMEYER, *Urban Life Research Institute,* AND ABRAM AMSEL, *Tulane University.*

An experimental test of the specificity of reactive inhibition. PAUL E. THETFORD AND ABRAM AMSEL, *Tulane University.*

Section B: Personality and Social

WILLIAM M. HINTON, Chairman

A new method of evaluating self versus group perceptions. FRANK M. DU MAS, *Louisiana State University.*

The effect of personalized stress on attitudes toward self and others. RUSSELL LEVANWAY, *University of Mississippi.*

Emotional instability and perceptual blocking induced by color distraction. WAYNE H. HOLTZMAN, *University of Texas.*

Social acceptance and ethnic awareness. IRA ISCOE, *University of Texas.*

Generality versus specificity of radicalism-conservatism. MICHAEL A. ZACCARIA AND WILLIAM L. PACE, *Human Resources Research Center, Lackland Air Force Base, Texas.*

The relationship between empathy and art. GRAHAM B. BELL AND HENRY D. SHANKLIN, *Louisiana State University.*

Section C: General

JOHN F. DASHIELL, Chairman

Conditions determining the relative effectiveness of auditory and visual message presentation. RICHARD H. HENNEMAN AND JAMES G. HOLLAND, *University of Virginia.*

An experimental framework for the quantitative study of goal-directed behavior in young children. CHANDLER G. SCREVEN, *University of Mississippi.*

A study of the effects of tachistoscopic training on reading rate. A. W. GOTTSCHALL, JR., *University of Virginia,* AND W. M. HINTON, *Washington and Lee University.*

Theory and design of cancer patient behavior research. CARSON MCGUIRE, R. LEE CLARK, BEATRIX COBB, K. M. DALLENBACH, B. L. KELL, J. D. TRUNNELL, PHILIP WORCHEL, AND J. I. WHEELER, *University of Texas.*

Preliminary report of the Rosenzweig P-F Study in attempted suicides. DON L. WINFIELD AND P. J. SPARER, *Kennedy Veterans Hospital, Memphis, Tennessee.*

Section D: Applied

PHILIP WORCHEL, Chairman

An assessment of sorority women. BERNARD M. BASS, *Louisiana State University.*

Measurements of the precision of hand movements. J. STANLEY GRAY, *University of Georgia.*

How Supervise? scores before and after courses in industrial psychology. JOSEPH E. MOORE AND JOHN A. BARLOW, *Georgia Institute of Technology.*

An experimental investigation of effectiveness of teaching a social science course by television. JOHN B. MORRIS, *University of Mississippi.*

Friday Afternoon Sessions

Section E: Learning

ARTHUR J. RIOPELLE, Chairman

Perceptual differentiation in the course of non-differential reinforcement. M. E. BITTERMAN, A. D. CALVIN, AND CLAUDE B. ELAM, *University of Texas.*

Differential food-choices in rats occasioned by swimming. WILLIAM J. GRIFFITHS, JR., *University of Mississippi.*

The effect of posterior cortical ablation on simultaneous and successive discriminations. WALTER ISAAC, *USAF SAM Primate Laboratory, Austin, Texas.*

A resolution of conflicting data on the relative difficulty of simultaneous and successive discrimination. JEROME WODINSKY AND M. E. BITTERMAN, *University of Texas.*

Configurational constancy: the effects of changes in the intrinsic elements. DANIEL E. SHEER, *University of Houston,* AND PHILIP WORCHEL, *University of Texas.*

Section F: General

FRANK A. GELDARD, Chairman

Recall of experiences as a function of intensity as compared to quality (pleasantness or unpleasantness) of feeling tone. JOHN A. BARLOW, *Georgia Institute of Technology.*

Dominance hierarchy and time gradients in white rats—with a new technique. LOH SENG TSAI, *Tulane University.*

Fatigue-induced monocular diplopia and triplopia. JOHN F. DASHIELL, *University of North Carolina.*

Some properties of the visual cell assembly. RAYFORD T. SAUCER, *Georgia Institute of Technology.*

The perception of place in a circular field. FRED ATTNEAVE, *Human Resources Research Center, Lackland Air Force Base, Texas.*

The logic of similarity. CLYDE E. NOBLE, *Human Resources Research Center, Lackland Air Force Base, Texas.*

Conference on Problems Related to the Master's Degree

M. C. LANGHORNE, Chairman

Annual Banquet

Presidential Address: The Nature and Causal Antecedents of the Current Attack on Education. WILLIS MOORE, *University of Tennessee.*

Saturday Morning

Joint Session

Symposium: Contributions to Operations Research

KARL M. DALLENBACH, Chairman

GERARD HINRICHS, *Operations Research Office, Johns Hopkins University* (Representing Philosophy)

MEREDITH CRAWFORD, *Vanderbilt University* (Representing Psychology)

General discussion

Council

EDWARD G. BALLARD, KARL M. DALLENBACH, STANFORD C. ERICKSEN, GERARD HINRICHS, GLENN NEGLEY, HERBERT C. SANBORN (Honorary Member for Life), JOHN B. WOLFE, KARL ZENER, and officers.

PROCEEDINGS OF THE THIRTY-THIRD ANNUAL MEETING OF THE WESTERN PSYCHOLOGICAL ASSOCIATION

RICHARD KILBY, *Secretary*
San Jose State College

THE Western Psychological Association held its thirty-third annual meeting Thursday through Saturday, June 18–20, 1953, in the new Health Sciences Building of the University of Washington at Seattle. Eighty papers were given and several conferences were held during the three-day period. Total registration was 253.

At the annual banquet Friday evening the presidential address, "Virtue Rewarded and Vice Punished," was read by Edward C. Tolman, since the president, Ruth Tolman, was absent because of illness. The paper argued for harmony or cooperation between the "pure" scientist and the applied, or the theoretician and the professional practitioner in psychology. The argument stressed the facts that practice often runs ahead of theory in the development of a science, and hence this situation in psychology should not provide grounds for separation; that theory without practice is sterile or misleading; that practice without theory never becomes a science. On the assumption that psychologists would agree that such harmony was desirable, some of the virtues that would need to be exercised in order to maintain our common life were mentioned. Industry in fact-finding and in theory-building, better efforts at control, and maturity were the virtues extolled. The virtue of maturity was demonstrated by an impressive screen display of developmental samples—baby or childhood pictures of past presidents of the WPA. A marked change toward maturity over the years was noted by the audience.

Special meetings and luncheons held in conjunction with the meeting were: a luncheon for members of Psi Chi, sponsored by the University of Washington chapter; a luncheon for members of the Society for Projective Techniques, Bruno Klopfer presiding; a get-acquainted luncheon for school psychologists, sponsored by members of APA Division 16; a regional meeting of the Division of Clinical and Abnormal Psychology, arranged by Kate Kogan and William Grove. On Friday afternoon members of the Association and guests were entertained at a tea given by the Edwin R. Guthries.

Local arrangements were under the direction of Allan Katcher of the University of Washington. Carl Dickinson assisted by providing a placement service.

The Program Committee was made up of Clare Thompson, VA Hospital, Palo Alto; C. W. Telford, San Jose State College; Arthur Coladarci, Stanford; Arthur Burton, Agnews State Hospital; Leo Postman, University of California, Berkeley, and the Secretary.

The following officers were elected for 1953–54:

President: Nancy Bayley
President-elect: Neil Warren
Secretary: Leona Tyler
Treasurer: George Horton

The 1954 annual meeting will be held on May 20–22 at Long Beach under the joint sponsorship of U.C.L.A., U.S.C., Occidental College, and Long Beach State College.

In addition to the selection of the place of next year's meeting, the following actions were taken at the business meeting. New bylaws [illegible]cing the original brief ones of 1921, were ad[illegible]EL E[illegible] Henceforth, new officers are to be elected [illegible]LIP [illegible]ail ballot. A four-year formula to govern selec[illegible] of meeting place was adopted; this calls for [illegible]e meeting in Southern California, two in Northern California, and one in the Northwest. Further action was taken to implement the decision to participate in the meeting of AAAS to be held in Berkeley, December, 1954. The Executive Committee was authorized to contribute up to $250 to the APA Building Fund. It was also instructed to investigate the matter of a stipend for the secretary of the Association. The meeting decided to forego publication of the short

abstracts of papers this year because of the status of the treasury and our desire to contribute to the Building Fund. A resolution was adopted expressing appreciation to the Department of Psychology of the University of Washington for its sponsorship of the meeting.

PROGRAM

Sensation and Perception

FREDERICK A. COURTS, Chairman

Performance in the discrimination of aural and visual cues for classification. DAVID E. MEISTER, *U. S. Navy Electronics Laboratory, San Diego.*

Cues that aid the listening to one of two simultaneous questions. W. SPIETH, J. F. CURTIS, J. C. WEBSTER, AND P. O. THOMPSON, *U. S. Navy Electronics Laboratory, San Diego.*

Temporal numerosity: vision. CARROLL T. WHITE AND PAUL G. CHEATHAM, *U. S. Navy Electronics Laboratory, San Diego.*

Temporal numerosity: audition. PAUL G. CHEATHAM AND CARROLL T. WHITE, *U. S. Navy Electronics Laboratory, San Diego.*

Variation of the critical flicker frequency in the nasal visual field. MATHEW ALPERN, *Pacific University* (introduced by Anna Berliner).

Is there a common chemical sense in man? MARGARET HUBBARD JONES, *University of California, Los Angeles.*

The effect of small doses of aspirin upon the threshold for cutaneous pain. F. NOWELL JONES, *University of California, Los Angeles.*

The relation between visual and kinesthetic space. WARREN W. WILCOX, *Portland State*

Duration thresholds in the perception of idiosyncratically unpleasant words. DAVID M. STERNE, *VA Hospital, Vancouver.*

An olfactory discrimination box. G. H. FOSTER, *State College of Washington* (introduced by J. H. Elder).

Cortical correlates of pattern vision? A repetition of the Kohler-Held experiment. JOHN L. KENNEDY AND WILLIAM H. EMMONS, *The Rand Corporation.*

The diagnosis of cerebral damage by the fusion frequencies of intermittent stimuli in four sense modalities. ALBERT F. AX, *University of Washington,* AND WILLIAM H. COLLEY, *Veterans Administration, Huntington, Virginia.*

Applied I

ALLEN L. EDWARDS, Chairman

Validity vs. reliability. EDWARD K. STRONG, JR., *Stanford University.*

A method of estimating the intercorrelations between scales on the Strong Vocational Interest Blank. MILTON G. HOLMEN, *AFF Human Research Unit No. 2, Fort Ord.*

A factorial analysis in the domain of evaluation. ALFRED F. HERTZKA, *Naval Personnel Research Unit, San Diego,* J. P. GUILFORD, AND PAUL R. CHRISTENSEN, *University of Southern California.*

A first report on the use of the California Psychological Inventory to predict grades in high school and college. HARRISON G. GOUGH, *University of California, Berkeley.*

An individualized vocational interest scale. RICHARD KILBY, *San Jose State College.*

The Thompson Trailways. HELEN M. THOMPSON, *Long Beach Unified School District.*

An improved formula for the scoring of certain guess-who ratings at the adolescent level. EVAN R. KEISLAR, *University of California, Los Angeles.*

An experiment in the psychophysics of semantics. LYLE V. JONES, *University of Chicago* (introduced by Allen L. Edwards).

Achievement bias as a measure of attitude. MAURICE F. FREEHILL, *Western Washington College.*

Clinical I

GEORGE MUENCH, Chairman

Responses of emotionally disturbed children to human and to animal pictures. FLORENCE R. MAINORD, *University of Washington.*

Inter-observer correlations of periodic ratings during therapeutic interviews. IJA N. KORNER AND DALE WESTWOOD, *University of Utah College of Medicine.*

The approach-avoidance goal gradient hypothesis as applied to psychotherapy with psychotics. BEN C. FINNEY, *Palo Alto Veterans Hospital.*

Predicting interpersonal roles in therapy groups. HERBERT NABOISEK, *University of California* (introduced by Mervin B. Freedman).

A comparison of criteria used in the evaluation of rapport. IDELLA M. EVANS, *University of Oregon* (introduced by Leona E. Tyler).

Testing patterns in skin disease. HAROLD GEIST AND WAYNE WRIGHT, *U. S. Naval Hospital, Mare Island.*

Goal adaptiveness in stuttering. SEYMOUR L. ZELEN, *State University of Iowa Child Welfare Research Station,* AND JOSEPH G. SHEEHAN, *University of California, Los Angeles.*

Some problems in the clarification of the psychology of emotions and affects. ARTHUR L. KOBLER AND STANLEY W. JACKSON, *The Pinel Foundation, Inc., Seattle.*

The clinical psychologist's opportunities and obligations in the community. WILLIAM H. BROWN AND IJA N. KORNER, *University of Utah Medical College.*

An investigation of some psychological effects of electric shock treatment. MURRAY KORNGOLD, *University of California, Los Angeles.*

Physiological and Comparative I

JAMES ELDER, Chairman

The effect of change of drive as influenced by certain variables. H. BISHOP AND D. EHRENFREUND, *State College of Washington* (introduced by D. Ehrenfreund).

The satiation effect in monkey puzzle manipulation. SHIRLEY E. SACKS AND R. W. LEARY, *University of Washington* (introduced by R. W. Leary).

A test of the drive-reduction hypothesis. RICHARD A. LITTMAN, *University of Oregon,* AND EDWARD A. WADE, *University of Wisconsin.*

The effect of benzedrine on puzzle manipulation and activity level in monkeys. A. D. DAVIS AND R. W. LEARY, *University of Washington* (introduced by R. W. Leary).

Dietary influences on the acquisition of a plate-pressing response in pigs. PATRICIA AUDLEY AND F. D. KLOPFER, *State College of Washington* (introduced by F. D. Klopfer).

A preliminary study of nesting and maze-learning in hypophysectomized and normal male rats. CALVIN P. STONE, *Stanford University.*

Situational and hormonal influence on social dominance in gilts. E. B. SLEBODNICK AND F. D. KLOPFER, *State College of Washington* (introduced by F. D. Klopfer).

The relation of diet to the solution of the Mowrer "social problem" by pigs. A. M. MARCHIONNE AND F. D. KLOPFER, *State College of Washington* (introduced by F. D. Klopfer).

Activity and curiosity in the young gorilla (film). R. W. Leary, *University of Washington.*

Social

NEIL WARREN, Chairman

Two psychological determinants of coalition-formation in a group bargaining situation. PAUL J. HOFFMAN, LEON FESTINGER, AND DOUGLAS H. LAWRENCE, *Stanford University* (introduced by Douglas H. Lawrence).

Experimental studies of simple group performance. ANDREW L. COMREY AND GERALD DESKIN, *University of California, Los Angeles.*

A study of crew members' perceptions of group functioning. MARIO LEVI, *Stead Air Force Base, Reno.*

Self-perception and leaderless group discussion status. ARNOLD S. GEBEL, *University of California, Los Angeles.*

Background factors related to effective group participation. H. T. MARTIN AND LAURENCE SIEGEL, *State College of Washington* (introduced by Laurence Siegel).

Applied II

ARTHUR COLADARCI, Chairman

Role-playing techniques in an executive development program. B. L. WILKINSON AND J. H. MYERS, *Prudential Insurance Company of America.*

The impact of interpersonal relations on ratings of performance. VERNE KALLEJIAN, PAULA BROWN, AND IRVING R. WESCHLER, *University of California, Los Angeles.*

A job description approach to personnel research programming. WILLIAM W. GRINGS AND GLENN L. BRYAN, *University of Southern California.*

Some hypotheses and tests of planning abilities. RAYMOND M. BERGER, J. P. GUILFORD, AND PAUL R. CHRISTENSEN, *University of Southern California.*

The use of semantics in counseling and guidance. WILLIAM H. PEMBERTON, *San Francisco.*

Interest patterns of student nurses. ALMA P. BEAVER, *Santa Barbara College, University of California.*

A comparison of the interests of English and American children. LEONA E. TYLER, *University of Oregon.*

School and the "problem child." ELIZABETH Z. JOHNSON AND IJA N. KORNER, *University of Utah.*

Abnormal psychology as a selective factor in the college curriculum. EUGENE S. MILLS, *Whittier College.*

Physiological and Comparative II

T. C. RUCH, Chairman

Differential transfer of training between motor tasks of different difficulty. EARL I. JONES AND EDWARD A. BILODEAU, *U. S. Navy Electronics Laboratory, San Diego.*

Is pupillary conditioning established under natural conditions. REED S. BOSWELL AND PAUL B. PORTER, *University of Utah.*

Extinction as a function of work in a pulling response in children. GEORGE DIXON GREER, JR., *Fort Ord.*

One-trial learning of the domestic chicken in classical conditioning. ROGER BROWN LOUCKS, *University of Washington.*

Carbon dioxide discrimination of the cockroach, meal worm, and honeybee. F. D. KLOPFER, *State College of Washington.*

Intra-list variation in size of reward. ROBERT W. LEARY, *University of Washington.*

Discrimination reversal versus alternation between stimulus dimensions. DOUGLAS H. LAWRENCE AND WILLIAM A. MASON, *Stanford University.*

Generalization of instrumental response tendencies from visual size discrimination problems. RALPH H. KOLSTOE, *State College of Washington* (introduced by David Ehrenfreund).

The nature of errors in experimental lie detection. F. L. MARCUSE, *State College of Washington,* AND D. VAN BUSKIRK, *Provost Marshal General's School, Camp Gordon, Georgia.*

Pattern analysis of autonomic functions. M. A. WENGER, *University of California, Los Angeles.*

A proposed treatment of comparative problems using a mathematical model. ROBERT J. AUDLEY, *State College of Washington* (introduced by F. D. Klopfer).

Personality

HOWARD TAYLOR, Chairman

The interpersonal dimension of personality: II. An objective study of repression. ROLFE LAFORGE, MERVIN B. FREEDMAN, TIMOTHY F. LEARY, HERBERT NABOISEK, AND HUBERT S. COFFEY, *Kaiser Foundation Hospital, Oakland.*

Reality orientation as a function of ability to recognize and feel social premises. LEONARD ULLMAN, *VA Hospital, Palo Alto* (introduced by Robert L. McFarland).

The problem of personality test interpretation: a study of acceptance of stereotyped descriptions as compared with test-based interpretations. NORMAN D. SUNDBERG, *University of Oregon.*

Decision time as related to social desirability and trait strength. CALVIN E. WRIGHT, *University of Washington* (introduced by Allen L. Edwards).

The relationship of reported overt behavior to personality dimensions. ALEXANDER MILTON AND SAMUEL R. PINNEAU, *University of Oregon.*

The expression of personality in the drawings and paintings of adolescents. LOUIS STEWART, *University of California, Berkeley.*

Clinical II

KATE KOGAN, Chairman

Sex differences in mental test constancy and related parental variables. MARJORIE P. HONZIK, *University of California, Berkeley.*

Changes in performance on intelligence tests from one month to eighteen years. SAMUEL R. PINNEAU, *University of Oregon.*

A note on the growth of intelligence between 16 and 21 years. NANCY BAYLEY, *University of California, Berkeley.*

A reliability study of Wittenborn's Descriptive Rating Scales for rating currently discernible psy-

chopathology. WILLIAM S. KOGAN AND SHIRLEY PUMROY, *VA Hospital, Seattle.*

Personality aspects of the Strong Production Manager Scale. MANUEL N. BROWN, *VA Hospital, Vancouver.*

Two measures of test structure for Rorschach-like projective tests. ROBERT L. MACFARLAND, *VA Hospital, Palo Alto.*

Improvement of the Picture Arrangement and Picture Completion Tests of the Wechsler-Bellevue Scale (Form I) for use with the mentally deficient. GEORGE R. MURSELL, *Oregon Fairview Home, Salem.*

A comparison of Rorschach and Wechsler indices of mental deterioration. IRLA LEE ZIMMERMAN, ROY M. DORCUS, THOMAS H. STERNBERG, AND M. C. ZIMMERMAN, *University of California, Los Angeles.*

Clinical session, sponsored by APA Division 12. Open to all.

Special Sessions

Conference to discuss formation of a Research-Exchange on the Prevention of War. PRYNCE HOPKINS, Chairman

Conference on Problems of the Master's Degree in Psychology. LEONA E. TYLER, Chairman

PROCEEDINGS OF THE TWENTY-FIFTH ANNUAL MEETING OF THE MIDWESTERN PSYCHOLOGICAL ASSOCIATION

LEE J. CRONBACH, *Secretary-Treasurer*
University of Illinois

THE Midwestern Psychological Association held its twenty-fifth annual meeting at the Drake Hotel, Chicago, Illinois, on May 1 and 2, 1953, with 1,940 persons registered. The program was arranged by a committee consisting of Julian B. Rotter, Chairman, Jay L. Otis, and Benton J. Underwood. Chairman of local arrangements was George S. Speer, who was assisted by George G. Stern, Donald J. Lewis, Julius Seeman, Harry P. Shelby, Donald W. Fiske, John W. Cotton, and William C. Krathwohl. George W. Albee, of the APA Central Office, assisted with the placement service.

The program consisted of 173 papers scheduled in 20 sessions. Papers on Learning, Applied Experimental Psychology, Social Psychology, and Clinical Problems were especially numerous. Five symposia were scheduled: Teaching Clinical Psychology since the Boulder Conference, Learning and Behavior Pathology, Methodological Problems in Psychotherapeutic Process Research, the Psychocultural Influence of Television, and Psychological Aspects of Union-Management Relations. David A. Grant, of the University of Wisconsin, delivered the presidential address entitled "Discussion of Sequences in Stimulus Events and the Transmission of Information." It was attended by about 800 persons and was followed by a social hour.

The Council and annual Business Meeting considered the steadily increasing number of abstracts submitted and approved changes in procedure for future years. Hereafter, members only will be allowed to read papers; no person may appear as author for more than one paper. Non-members may be junior authors. In order to avoid hardship to students who might otherwise have planned to present papers in 1954 under sponsorship of members, the Council was authorized to elect by mail ballot suitably qualified applicants who apply by January 1, 1954. As before, any APA member may automatically become a member of MPA by submitting his dues payment to the Secretary-Treasurer; persons joining under this provision prior to the 1954 program deadline may submit papers. The Business Meeting adopted the principle that open meetings during the period of the convention shall be scheduled only by the program committee. Organizations proposing special open sessions will be required to submit their program suggestions to the program committee.

The Business Meeting endorsed an arrangement whereby APA will assist in placement and public relations activities at future meetings, the cost to be shared by the two associations. While dues for the association remain at $1.50 per year, a special rate of $2.50 was set for advance payments for two years at a time.

Judson S. Brown was elected President, and Benton J. Underwood was elected to the Executive Council for a three-year term. Continuing members of the Council are: Marion E. Bunch and Paul E. Meehl, together with the Secretary-Treasurer. David P. Boder and W. A. Owens, Sr. were elected to life membership. The addition of new members listed below brings the total membership to 1,301.

The next annual meeting of the association will be held April 29, 30, and May 1, 1954, at the Deshler-Wallick and Neil House hotels in Columbus, Ohio. Delos D. Wickens, of Ohio State University, will be in charge of local arrangements.

The following 141 APA members became MPA members during the past year:

Adams, Oscar S.
Adamson, Robert E.
Amatora, Sister Mary
Arnholter, Mrs. H. H.
Askren, W. B.
Baehr, George O.
Bakan, Paul
Baker, Katherine E.
Berkeley, Marvon H.
Bishop, Clayton K.
Blair, Harry W.
Brackmann, Jr., John F.
Bray, Charles W.
Brinkmann, Lois
Burdock, Eugene I.
Calvin, James S.
Chance, June E.
Charvat, Harold A.
Cohen, Bertram D.
Cohen, Jerome

Conklin, Jack E.
Corwin, Betty J.
Cross, Orrin H.
Daily, Jr., A. D.
Davis, Milton K.
Davison, Arthur H.
Dean, Sanford J.
Diamond, A. Leonard
Dinsmoor, James A.
Divney, Herbert P.
Drevdahl, John E.
Dunlap, Jr., Jack W.
Dunnette, Marvin D.
Enrick, Ralph A.
Fitzgerald, Bernard J.
Ginsburg, Norman M.
Gloye, Eugene
Golub, Arnold J.
Gross, Zoltan
Gustafson, Levarl M.
Haglund, Carl A.
Hannum, T. E.
Harper, Robert S.
Harway, Norman I.
Harway, Vivian I.
Holbrook, Jack D.
Hurt, George Rex
Jones, Lyle V.
Joyce, James
Kahn, Arthur
Katz, Daniel
Klopfer, Walter G.
Knowles, Jr., William B.
Knox, Trudy
Kropp, Russell P.
Kupfer, David
Landfield, Alvin W.
Lanman, Richard W.
Lark-Horowitz, Betty
Leavitt, George S.
Leiman, John M.
Lelchuck, Louis
Long, Barbara Ellis
MacRae, John
Maher, Winifred B.
McAllister, Dorothy E.
McAllister, Wallace R.
McCornack, Robert L.
McKeachie, Wilbur J.
McKnelly, Theodore T.
McMurdo, Sally L.
McWilliams, R. C.
Mech, Edmund V.
Meyer, Bill T.
Meyer, Priscilla
Milholland, John F.
Mitchell, Rebecca Nelson
Munger, Paul F.
Neimark, Edith
Nelson, Ralph A.
Norris, V. L.
Norton, Joseph L.
O'Dea, J. David
Page, Curtis W.
Patton, Rollin M.
Payne, Jr., M. C.
Pepinsky, Harold B.
Pepinsky, Pauline N.
Peterson, Richard O.
Pratt, Steve H.
Rausch, Harold L.
Reid, John W.
Reitan, Ralph M.
Rigby, Marilyn K.
Rigby, W. K.
Ring, Jean M.
Ritz, Jr., George H.
Roberts, S. O.
Rosen, Sidney
Rothkopf, Ernest Z.
Rothschild, Donald A.
Rowe, William J.
Rozran, Gilbert B.
Rupe, J. C.
Sanderson, J. Wesley
Seltzer, Samuel M.
Senders, Virginia L.
Siebrecht, Elmer B.
Sisson, Boyd D.
Smith, Frances E.
Soar, Robert S.
Spiker, Charles C.
Stack, Thelma D.
Stanley, Jr., Julian C.
Steinberg, Martin
Strain, Edward R.
Streitfeld, Hal
Sweet, Alex L.
Taubman, Robert E.
Thurlow, Willard R.
Torrey, Jane
Vayhinger, John M.
Wagner, Mazie Earle
Wald, Robert M.
Walker, Francis C.
Weinstein, Herbert M.
Weisinger, Jr., Carroll
Wertheimer, Rita
Wesland, Eugene H.
West, E. D.
Whitmer, Carroll A.
Wiley, L. E.
Willerman, Ben
Winslow, Charles N.
Wrenn, C. Gilbert
Wright, Glenn E.
Zagorski, Henry J.
Zeleny, Marjorie P.
Zilaitis, Victor
Zimny, George H.
Zucker, Karl B.

The following 91 non-APA applicants were elected to membership:

Adrian, Audrey F.
Allen, Terrence M.
Anderson, Ernest W.
Asher, John W.
Auble, Donavon
Balma, Michael
Barndt, Robert J.
Barrett, Beatrice H.
Bennett, Corwin A.
Boldt, Robert F.
Brams, Jerome Martin
Breckenridge, Clifford W.
Canfield, Milton
Carpenter, Bruce
Chew, William B.
Clair, Dean
Coe, Harold
Creaser, James W.
Daily, John M.
DeSoto, Clinton
Dick, R. Dale
Draper, Richard D.
Durand, Shirley
Eger, Lawrence
Evans, Howard
Ferdinand, Theodore
Fobbs, Mrs. Helaine
Franklin, George W.
French, Gilbert M.
Fulker, Edmund
Gardner, Ray
Goy, Robert W.
Griffin, Warren B.
Harford, Dorothy
Harris, Richard
Harris, Shelby
Henderson, Jr., George W.
Holder, Elaine
Holder, Wayne B.
Hunt, Darwin P.
Jahnke, John
Jenson, Bonnie E.
Jones, Donald R.
Jones, Leah M.
Kidd, Jerry
Klass, Joseph
Long, Donald A.
Lynn, Rosalie
Martindale, Robert
Mattair, David
McGee, Shanna
Mednick, Martha T.
Mensch, Harold E.
Meryman, John J.
Middaugh, Richard
Miller, Gilbert E.
Moon, Jr., Louis E.
Munsterberg, Elizabeth
Murfin, Fern
O'Halloran, Ann
Orr, Forrest
Partridge, Cloyd R.
Pearson, Richard G.
Peterson, Lloyd R.
Raymond, Charles
Ricci, John
Richardson, Jack
Roazen, I. Harvey
Roberts, Alan H.
Runquist, Willard
Scheible, Helen
Schoeffler, Max S.
Schrier, Allan M.
Shields, Ethel Ann
Shontz, Franklin
Sidowski, Joseph
Siegman, Aron
Singer, Paul
Smith, Jean Judson
Smith, Jr., Orville A.
Smith, Patricia
Smith, Wellington
Smith, William
Stevens, Samuel N.
Straughan, James
Wagner, R. Lee
Weinstock, Solomon
Weir, Margaret
Wells, Ruth
Williams, Paul L.

PROGRAM

Abstracts of papers have been deposited with the ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington 25, D. C., as Documents No. 3993–4012. When ordering, remit the price listed below for photoprints or 35 mm. microfilm, using check or money order payable to: Chief, Photoduplication Service, Library of Congress. Advance payment is required.

Title	*ADI No.*	*Microfilm*	*Photoprint*
Learning I	3993	$2.00	$3.75
Learning II	3994	$2.00	$3.75

Title	*ADI No.*	*Microfilm*	*Photoprint*
Learning III	3995	$2.00	$3.75
Learning IV	3996	$2.00	$3.75
Applied Experimental I	3997	$1.75	$2.50
Applied Experimental II	3998	$1.25	$1.25
Sensation and Perception	3999	$1.75	$2.50
Physiological	4000	$1.75	$2.50
Industrial	4001	$1.75	$2.50
Personnel	4002	$1.75	$2.50
Guidance	4003	$1.25	$1.25
Measurement	4004	$1.75	$2.50
Personality	4005	$1.75	$2.50
Anxiety	4006	$1.75	$2.50
Social I	4007	$2.00	$3.75
Social II	4008	$1.75	$2.50
Clinical I	4009	$1.75	$2.50
Clinical II	4010	$1.75	$2.50
Projective Techniques	4011	$1.75	$2.50
Developmental and Educational	4012	$1.75	$2.50

Learning I

DONALD J. LEWIS, *Northwestern University*, AND EDWARD L. WALKER, *University of Michigan*, Chairmen

LLOYD E. HOMME, *University of Pittsburgh*. Spontaneous recovery from extinction in relation to spacing of acquisition.

D. W. LAUER AND W. K. ESTES, *Indiana University*. Successive acquisitions and extinctions of a jumping habit in relation to reinforcement schedule.

M. RAY DENNY, JACK L. MAATSCH, AND RUTH H. WELLS, *Michigan State College*. Resistance to extinction as a function of the discrimination habit established during fixed ratio reinforcement.

M.U. ENINGER, *Carnegie Institute of Technology*. Massing of incorrect trials as a variable in discrimination learning.

JOHN D. SNIDE AND DELOS D. WICKENS, *Ohio State University*. The effects of an unreinforced stimulus component upon the extinction of a conditioned galvanic skin response.

SYDNEY HELLYER, *Indiana University*. An investigation of drinking time as a variable in amount-of-reinforcement studies.

PHILBURN RATOOSH AND CARL A. SILVER, *Ohio State University*. Behavior in a two-choice situation.

JAMES H. STRAUGHAN AND WILLIAM K. ESTES, *Indiana University*. Analysis of a random-reinforcement situation in terms of statistical learning theory.

JOHN A. MODRICK, *University of Michigan*. Learning under uncertainty: prediction of events under conditions of indeterminacy and partial information.

EDITH NEIMARK, *Indiana University*. The effect of three partial-reinforcement schedules in a two-choice situation.

FREDERICK H. KANFER, *Indiana University*. The effect of partial reinforcement on acquisition and extinction of a class of verbal responses.

DONAVON AUBLE AND E. VICTOR MECH, *Indiana University*. Partial verbal reinforcement related to distributed practice in a classroom situation.

SOLOMON WEINSTOCK, *Indiana University*. Partial reinforcement and extinction of a running habit at a 24-hour intertrial interval.

B. D. COHEN, H. I. KALISH, J. R. THURSTON, AND E. COHEN, *VA Hospital, Iowa City*. The experimental manipulation of verbal behavior.

Learning II

ARNOLD BUSS, *Carter Memorial Hospital, Indianapolis*, AND WILSE WEBB, *Washington University*, Chairmen

BOYD L. MATHERS, JAMES J. JENKINS, AND WALLACE A. RUSSELL, *University of Minnesota*. The strength of verbal associations and the phenomena of associative clustering.

NORMAN FRISBEY AND M. RAY DENNY, *Michigan State College*. Pursuit-rotor performance under alternate conditions of distributed and massed practice.

ROBERT F. BOLDT, *Iowa State College*. Motor learning in college students and mental defectives.

JOHN A. STARKWEATHER, *Northwestern University*. An experimental test of conditioned inhibition in motor learning.

DOUGLAS S. ELLIS, RAYMOND E. SCHUCKER, AND LUCIA B. STEVENS, *Iowa State College*. A retest for conditioned inhibition in the alphabet printing task.

DOROTHY E. MCALLISTER, *State University of Iowa*. The effects of various kinds of relevant verbal pretraining on subsequent motor performance.

ROBERT K. YOUNG AND BENTON J. UNDERWOOD, *Northwestern University.* Transfer in verbal learning as a function of response differentiation in the stimuli-different, responses-varied paradigm.

HELEN SCHEIBLE AND BENTON J. UNDERWOOD, *Northwestern University.* The influence of overt error frequency on rate of serial learning.

HELEN G. PRICE AND DON LEWIS, *State University of Iowa.* Pronouncing behavior as a factor in serial learning.

E. JAMES ARCHER, *University of Wisconsin.* Effect of rest-interval activity on short-interval retention of serial nonsense syllables.

MELVIN H. MARX, *University of Missouri.* A confirmation of a modified Thorndikian spread-of-effect hypothesis in a normal multiple-choice learning situation.

EDWARD SCHWARTZ, *Northwestern University.* Processes of immediate memory: the perceptual manipulation of symbols.

R. G. POLAND, H. V. COBB, AND R. T. DAVIS, *University of South Dakota.* The use of pure tones in stimulus categorization.

Learning III

DONALD R. MEYER, *Ohio State University,* Chairman

DONALD A. GAAL, *Carnegie Institute of Technology.* The rate of learning an instrumental response as a function of the duration of the conditioned stimulus.

WALLACE R. MCALLISTER, *State University of Iowa.* The effect on eyelid conditioning of shifting the CS-US interval.

CARL A. SILVER AND DONALD R. MEYER, *Ohio State University.* Temporal factors in sensory preconditioning.

JACK L. MAATSCH, HARVEY M. ADELMAN, AND M. RAY DENNY, *Michigan State College.* Effort and extinction rate: a disconfirmation.

ERNST Z. ROTHKOPF, *Human Resources Research Center, Chanute AFB.* Distribution of practice and the temporal decay of response-produced stimuli.

NISSIM M. LEVY, *University of Missouri.* Latent extinction in a single unit U maze with differentiated end boxes.

SHINKURO IWAHARA AND NISSIM M. LEVY, *University of Missouri.* An experimental study of extinction in a straight alley.

J. P. COSTILOE AND H. W. COPPOCK, *University of Oklahoma.* An investigation of conditioned facilitation and inhibition of GSR's in the white rat.

DELOS D. WICKENS, HAROLD SCHRODER, AND JOHN D. SNIDE, *Ohio State University.* Primary stimulus generalization under two conditions of training.

CHARLES C. PERKINS, JR., *Kent State University.* Stimulus generalization of a bar-pressing response following two types of training.

SHELDON J. LACHMAN, *Wayne University.* An experimental study of absolute and relational stimulus training in discrimination learning.

Learning IV

LAWRENCE STOLUROW AND G. ROBERT GRICE, *University of Illinois,* Chairmen

HARRY F. HARLOW AND GERALD MCCLEARN, *University of Wisconsin.* Discrimination learning by monkeys on the basis of manipulation motivation.

ROBERT A. BUTLER, *University of Wisconsin.* Discrimination learning by Rhesus monkeys to visual exploration motivation.

DONALD R. LUNDGREN AND MAX U. ENINGER, *Carnegie Institute of Technology.* An extension of the Tolman-Gleitman study: equal reinforcements in both end boxes followed by shock in one end box.

CHARLES K. RAMOND, *State University of Iowa.* Performance in selective learning as a function of hunger.

AUGUSTUS D. DAILY, *Carnegie Institute of Technology.* The effect of variation of relevant drive on the learning of a simple position habit.

BETTY JANE CORWIN, *Bowling Green State University.* An investigation of the influence of competing drive states on extinction of the running response.

CLAYTON K. BISHOP, *Denison University.* Summation and generalization of response strength when based on hunger and thirst drive.

JOHN J. MERYMAN, *State University of Iowa.* The magnitude of startle response as a function of hunger and conditioned fear.

ROBERT W. GOY AND HOWARD F. HUNT, *University of Chicago.* The resistance of an instrumental response to suppression by conditioned fear.

LEO L. GLADIN AND M. RAY DENNY, *Michigan State College.* An experimental analysis of "abnormal fixation" in rats.

PAUL WILLIS, *Carnegie Institute of Technology.* The role of anxiety-induced stimulation as a mediator of transfer effects.

JOHN W. COTTON, *Northwestern University.* Running time as a function of amount of food deprivation.

STANLEY C. RATNER, *Indiana University.* Bar-pressing and dipper-approaching as a function of training conditions and the presence or absence of a secondary reinforcing stimulus.

D. P. OGDON, T. KANEKO, AND N. M. LEVY, *University of Missouri.* On "the structure of acts."

Applied Experimental I

WALTER F. GRETHER, *Ohio State University,* Chairman

ABRAM M. BARCH, *Human Resources Research Office.* A study of the effect of varying difficulty of task and stimulus-response relations on the performance of a complex tracking task.

MARTY R. ROCKWAY AND ROSS L. MORGAN, *Wright-Patterson AFB.* The effect of changed context on the performance of a compensatory tracking task.

DANIEL HOWLAND AND MERRILL E. NOBLE, *Ohio State University.* The effect of physical constants of a control on tracking performance.

JOHN W. SENDERS, VIRGINIA L. SENDERS, AND RONALD A. WALLIS, *Antioch College.* Coordination measures on a two-hand pursuit task.

ROBERT E. MORIN AND DAVID A. GRANT, *University of Wisconsin.* Original performance and learning on a motor task as a function of stimulus-response correspondence.

WILLIAM F. BATTIG, *University of Wisconsin.* The effect of kinesthetic, verbal, and visual cues on the acquisition of a motor skill.

LEONARD J. WEST, *Technical Training Research Laboratory, Chanute AFB.* Verbally induced sets toward speed and accuracy in a motor skill.

Applied Experimental II

STANFORD C. ERICKSEN, *Human Relations Research Office,* Chairman

R. L. DEININGER, P. M. FITTS, AND M. E. NOBLE, *Ohio State University.* Stimulus-response compatibility. II. The effect of two stimulus variables on a single set of responses.

CHARLES O. NYSTROM, ROBERT E. MORIN, AND D. A. GRANT, *University of Wisconsin.* Transfer effects between automatically paced and self-paced training schedules in a perceptual-motor task.

VIRGINIA L. SENDERS, *Antioch College.* The effect of number of dials on qualitative reading of a multiple-dial panel.

M. CARR PAYNE AND W. E. KAPPAUF, *University of Illinois.* Patterns of constant errors in linear interpolation as a function of scale size.

Sensation and Perception

PHILBURN RATOOSH, *Ohio State University,* AND WILLIAM H. LICHTE, *University of Missouri,* Chairmen

KENNETH T. BROWN, *Aero Medical Laboratory, Wright Air Development Center.* Rate of perceptual change of an ambiguous figure as a function of inspection time.

ARTHUR J. RIOPELLE, *Emory University,* AND KAO LIANG CHOW, *Yerkes Laboratories of Primate Biology.* Area-intensity relations at various retinal locations.

A. L. DIAMOND, *Northwestern University.* Foveal simultaneous brightness contrast as a function of inducing and test field luminances.

H. LEIBOWITZ AND F. A. MOTE, *University of Wisconsin.* Simultaneous contrast as a function of separation between test and inducing fields.

J. E. CONKLIN AND R. H. BROWN, *Ohio State University.* The lower rate threshold for visual discrimination of movement as a function of exposure time.

PAUL BAKAN, *University of Illinois.* The change of threshold as a measure of decrement in a vigilance task.

OSCAR S. ADAMS, *Ohio State University.* An investigation of the effects of stereo-image decentration and stereo-base on judgments of apparent size.

ELEANOR R. ADAIR AND F. A. MOTE, *University of Wisconsin.* Dark adaptation after intermittent and continuous pre-exposures of equal duration.

IRA J. HIRSH AND W. D. BOWMAN, *Central Institute for the Deaf.* Masking of speech by bands of noise.

GERALD F. RABIDEAU AND JOSEPH TIFFIN, *Purdue University.* The relationship of number of judgments to reliability of Muller-Urban constant thresholds.

LEE W. GREGG, *Carnegie Institute of Technology.* The effect of inter-stimulus interval on fractionation of temporal duration.

A. R. LAUER, *Iowa State College.* An experimental study of certain proportions of form preferences.

Physiological

P. B. SHURRAGER, *Illinois Institute of Technology,* Chairman

WILLIAM M. TAYLOR, *Beloit College.* An investigation of surface skin temperature changes in comparison with other physiological indices.

GOLDINE C. GLESER, *Washington University Medical School.* A method of statistical treatment for electronically analyzed EEG data.

JOHN B. FINK, *Indiana University.* Acquisition and extinction of an incidental muscle-tension set to a contingent stimulus.

DONALD B. LINDSLEY, *University of California, Los Angeles.* Response to photic stimulation in visual pathways from retina to cortex.

RAYMOND C. MILES, DONALD R. MEYER, AND PHILBURN RATOOSH, *Ohio State University.* Color vision in the cat: a re-evaluation.

DONALD R. MEYER, WALTER ISAAC, AND BRENDAN A. MAHER, *Ohio State University.* The role of stimulation in "spontaneous" reorganization of visual habits.

ARTHUR KAHN, *Naval Research Laboratory.* The effect of the prefrontal lobotomy on the drinking response of the albino rat.

E. J. HOVORKA, *Tulane University.* The effect of intensity of electro-convulsive current upon an immediately preceding response.

W. R. HOOD, C. P. HEADLEE, AND H. W. COPPOCK, *University of Oklahoma.* Secondary reinforcing effects of stimuli associated with primary reinforcements of glucose and of insulin injections.

CHARLES E. PLATT, *DePauw University.* The effect of di-isopropyl fluorophosphate (DFP) on the rate of learning a discrimination problem by albino rats during the period of physiological recovery.

Industrial

E. J. MCCORMICK, *Purdue University,* Chairman

RUDOLPH KEIL AND WILLARD A. KERR, *Illinois Institute of Technology.* An experimental study of industrial monotony.

FRANK J. SMITH AND WILLARD A. KERR, *Illinois Institute of Technology.* Content analysis of the industrial exit interview.

B. J. SPEROFF, *University of Chicago.* Job satisfaction study of two small unorganized plants.

ROBERT C. MCWILLIAMS AND ROY A. DOTY, *George Fry & Associates.* A comparison of the test performance of industrial research supervisors and non-supervisory industrial research personnel.

ELMER B. SIEBRECHT, *Iowa State College.* A note on ages at which males have accidents.

ROSS STAGNER, *University of Illinois.* A structured projective test of union-management attitudes.

ROY A. DOTY, *George Fry & Associates.* Five-year follow-up of predicted job success at the managerial level.

Personnel

DORA E. DAMRIN, *University of Illinois,* Chairman

MARVIN D. DUNNETTE, *University of Minnesota.* A special analogies test for the evaluation of graduate engineers.

MORRIS I. STEIN, BERNARD MEER, AND ALBERT J. CARON, *University of Chicago.* Perceptual organization in a study of creativity.

WALTER L. WILKINS, MARILYN K. RIGBY, AND O. F. ANDERHALTER, *St. Louis University.* Sociometric ratings of Marine Corps officer candidates.

MARILYN K. RIGBY, WALTER L. WILKINS, AND O. F. ANDERHALTER, *St. Louis University.* Peer ratings of Marine Corps officer candidates.

ROBERT GLASER AND OWEN JACOBS, *American Institute for Research.* Predicting achievement in medical school: a comparison of preclinical and clinical criteria.

R. B. McHUGH AND W. A. OWENS, *Iowa State College*. Age changes in mental organization—a longitudinal study.

Guidance

ARTHUR E. BRAYFIELD, *Kansas State College*, Chairman

KENNETH A. MILLARD, *Macalester College*. How accurate are ACE scores from the Minnesota State Testing Program?

L. J. BISCHOF, *Southern Illinois University*. Relationship of GATB scores and academic grades.

JOHN C. FLANAGAN, *American Institute for Research*. Job-element aptitude classification tests.

MICHAEL A. ZACCARIA AND ROBERT B. CLAYTON, *Human Resources Research Center, Lackland AFB*. A holistic approach to interest measurement.

J. RICHARD PORTER, *Psychological Service of Pittsburgh*. The relation of mental ability, emotional adjustment, and father's occupation to vocational plans of high-school senior boys.

Measurement

LYLE V. JONES, *University of Chicago*, Chairman

JOHN E. MILHOLLAND, *University of Michigan*. Four kinds of reproducibility in scale analysis.

C. J. BURKE, *Indiana University*. Item difficulty and the concept of factor density.

HAROLD P. BECHTOLDT, *State University of Iowa*. A factor analysis of verbal skills.

GERALD M. RAPAPORT AND IRWIN A. BERG, *Northwestern University*. Response sets in a multiple-choice testing situation.

MARVIN H. BERKELEY, *Human Resources Research Center, Lackland AFB*. A method for developing equivalent forms of tests of complex functions.

Personality

ROBERT I. WATSON, *Northwestern University*, Chairman

HARVEY M. ADELMAN, *Michigan State College*, AND GERALD ROSENBAUM, *Wayne University*. Extinction of goal-directed behavior as a function of frustration at various distances from the goal.

MELVIN P. REID, DORE GORMEZANO, BERNARD M. BASS, AND WILLIAM P. HURDER, *Louisiana State University*. Validity of a manifold classification of stress as indicated by movie-stimulated recall of football players.

BERNARD J. FITZGERALD, JULIAN B. ROTTER, AND JAMES N. JOYCE, *Ohio State University*. A comparison of some objective measures of expectancy.

STANFORD J. DEAN, *Ohio State University*. The effects of failure and cultural standard on two stated levels of aspiration.

JUNE E. CHANCE, *Ohio State University Medical Center*. Generalization of expectations mediated by commonness of reinforcement.

ERWIN J. LOTSOF, *Ohio State University*. A methodological study of strength of reinforcement as related to decision time.

SOLIS L. KATES AND RUTH M. JORDAN, *University of Oklahoma*. The social-stimulus self and self image related to personality and psychotherapy.

EUGENE E. LEVITT AND SEYMOUR L. ZELEN, *State University of Iowa*. An experimental evaluation of the validity of the *Einstellung* test as a measure of rigidity.

BERNARD SPILKA, *Human Resources Research Center, Randolph AFB*, AND E. STRUENING, *Purdue University*. A questionnaire study of personality and ethnocentrism.

JOHN G. MARTIRE, *State University of Iowa*. Relationships between the strength and generality of achievement motivation and the self concept.

Anxiety

I. E. FARBER, *University of Iowa*, Chairman

FRANKLIN C. SHONTZ, *Western Reserve University*. An experimental demonstration of the effects of frustration and threat on two kinds of behavior in C3H mice.

HOWARD F. HUNT AND LEON S. OTIS, *University of Chicago*. The effect of electro-convulsive shock (ECS) on experimentally induced "conflict."

H. W. COPPOCK, *University of Oklahoma*. Responses of *S* to his own GSR's as modified by suggestion and incipient fatherhood.

J. D. MATARAZZO, GEORGE A. ULETT, AND GEORGE SASLOW, *Washington University School of Medicine*. Human maze performance as a function of anxiety level.

RICHARD J. HABERLE, *Loyola University.* The effect of the use and threatened use of electric shock on the maze-learning of human subjects.

LEONARD D. GOODSTEIN, *State University of Iowa.* Interrelationships among several measures of anxiety and hostility.

Social I

JACK C. GILCHRIST, *University of Wisconsin,* Chairman

LEONARD BERKOWITZ, *Human Resources Research Center, Randolph AFB.* Group standards, cohesiveness, and productivity.

JANE W. TORREY AND BEN WILLERMAN, *University of Minnesota.* Factors related to discussion participation in student-living groups.

BEN WILLERMAN, *University of Minnesota.* Control and common fate as related to member-group attitudes toward a coalition.

RICHARD B. SEYMOUR, *University of Nebraska.* Regional differences in some psychological beliefs.

DONALD N. ELLIOTT AND BERNARD WITTENBERG, *Wayne University.* Relationship between attitude toward Jews and accuracy of identification of Jews as a function of labeling bias.

GEORGE DEVOS, *Elgin, Illinois.* Comparison of affective loadings in the Rorschach responses of Japanese-American and American normal groups.

BERNARD A. STOTSKY AND SHELDON J. LACHMAN, *Ann Arbor, Michigan.* Some relationships between certain personal data, social attitudes, and political preference.

ELIZABETH G. FRENCH AND RAYMOND R. ERNEST, *Human Resources Research Center, Lackland AFB.* The relationship between authoritarianism and acceptance of military ideology.

PAUL D. HOOD AND GEORGE VENING, *Ohio State University.* A technique for measuring frames of reference within an organization.

RICHARD O. PETERSON, *American Institute for Research.* Limitations of Likert attitude scales imposed by differences in standardizing groups.

Social II

JOHN HEMPHILL, *Ohio State University,* Chairman

BRUCE J. BIDDLE, *University of Michigan.* Social norms and leadership in formal groups.

ALLEN R. SOLEM, *North Carolina State College.* The influence of the discussion leader's attitude on the outcome of group decision conferences.

RAY PRUITT AND BERNARD M. BASS, *Louisiana State University.* Key groups—a method for standardizing the study of situational factors associated with leadership.

JOHN V. MOORE, *Chanute AFB.* A factor analysis of subordinate evaluations of non-commissioned officer supervisors.

ROBERT L. FRENCH, DOROTHY M. KNOELL, AND GLEN F. STICE, *Human Resources Research Center, Randolph AFB.* Measures of attitudes and performance during early training as predictors of B-29 crew performance in Korean combat.

Clinical I

JULIAN PATHMAN, *Northwestern University,* Chairman

BORIS BREIGER, *Chicago State Hospital.* The use of the Wechsler-Bellevue Picture Arrangement subtest as a projective technique.

SAMUEL J. BENVENISTE, *Chicago State Hospital.* Some theoretical considerations concerning "scatter analysis" of the Wechsler-Bellevue.

GEORGE G. STERN, *University of Chicago.* Studies in personality typologies: the N, R, and S syndromes.

FRANCES E. SMITH, *Garrett Biblical Institute.* Individual differences in adjective response in free and controlled types of verbal association.

GEORGE O. BAEHR, *VA Hospital, Danville, Illinois.* The comparative effectiveness of individual psychotherapy, group psychotherapy, and a combination of these methods.

Clinical II

T. ERNEST NEWLAND, *University of Illinois,* Chairman

RALPH M. REITAN, *Indiana University Medical Center.* Intellectual functions in myxedema.

SEYMOUR ROSENBERG AND JAMES CURTISS, *San Antonio, Texas.* The effect of stuttering on the behavior of the listener.

DANIEL F. NOVAK, *Illinois State Training School for Boys.* A comparison of vocational interests of delinquent and nondelinquent boys.

VIVIAN I. HARWAY, *Michigan State Normal College.* Self-evaluation and goal-striving in orthopedically handicapped children.

MARCUS B. SHEFFER AND WILLIAM H. FUNDERBURK, *Traverse City State Hospital.* Semicarbazide convulsive therapy induced by photic stimulation in schizophrenia.

ROBERT W. HARRINGTON AND J. C. EHRMANN, *Michigan State College.* Complexity of response as a factor in the vocabulary performance of schizophrenics.

WILSON H. GUERTIN AND VICTOR ZILAITIS, *VA Hospital, Knoxville, Iowa.* A transposed factor analysis of paranoid schizophrenia.

EDMUND JACOBSON, *Laboratory for Clinical Physiology, Chicago.* Neuromuscular television—a pedagogic method for patients and/or students.

Projective Techniques

DANIEL R. MILLER, *University of Michigan,* Chairman

WAYNE H. HOLTZMAN, ALLEN D. CALVIN, AND IRA ISCOE, *University of Texas.* Rorschach color responses and manifest anxiety in college women.

JAMES E. HEENAN, *Lincoln, Nebraska.* An investigation of certain indices of anxiety in presurgery and postsurgery patients.

HENRY J. LAMBIN, JR., *Criminal Court of Cook County.* Prediction of the academic achievement and professional adjustment of student nurses by use of the group Rorschach.

IRWIN J. KNOPF, *State University of Iowa College of Medicine.* A study of the effects of recent perceptual training and experience on the Rorschach performance.

RITA WERTHEIMER, *West Virginia University.* Validation of specific Rorschach variables with sociometric data.

ROY M. HAMLIN, *University of Pittsburgh Western Psychiatric Institute.* Effects of color and of form on a simple card-sorting task.

E. EARL BAUGHMAN AND ARVORD W. BELDEN, *University of Wisconsin.* The effects of figure-ground contrast upon perception as evaluated by a modified Rorschach technique.

PHILIP H. DUBOIS, *Washington University,* AND ARNOLD H. HILDEN, *VA Mental Hygiene Clinic, St. Louis.* The *P*-scale on the Rorschach: a methodological study.

BERNARD H. LIGHT, *West Virginia University.* A comparative study of a series of TAT and CAT cards with preadolescent children.

HENRY ANGELINO, *University of Oklahoma.* The validity of the children's form of the Rosenzweig Picture-Frustration Study.

Developmental and Educational

FRANCES A. MULLEN, *Chicago Board of Education,* Chairman

FRANK M. LACHMANN, *Northwestern University.* Normal and anomalous EEG's as related to intelligence test performance and dyslexia.

JOHN M. MACRAE, *University of Omaha.* A study of the development of foster children now of school age who were given mental tests as infants.

THOMAS E. HANNUM, *Iowa State College.* Identification and measurement of the arithmetical concepts and abilities of preschool and primary grade school children.

G. K. YACORZYNSKI, *Northwestern University Medical School.* Effects of prolonged, precipitate, and spontaneous labor and delivery upon psychological functions.

CLAIRE KEPLER PURCELL, *University of Nebraska.* A Rorschach study of adjustment prediction, developmental trends, and normative data with kindergarten children.

E. D. FITZPATRICK, L. J. BISCHOF, AND L. L. PATHEAL, *Southern Illinois University.* A comparison of the extent of retention accompanying the use of three teaching-testing procedures.

PROCEEDINGS OF THE TWENTY-FOURTH ANNUAL MEETING OF THE EASTERN PSYCHOLOGICAL ASSOCIATION

GORHAM LANE, *Secretary*
University of Delaware

THE twenty-fourth annual meeting of the Eastern Psychological Association was held on April 24 and 25, 1953, at the Hotel Statler, Boston, Massachusetts. A total of 1,274 persons registered at the meeting. Of these, 631 were members of the Association, 402 were guests, and 241 were new members who joined the Association at the meeting. The present active membership of the Association totals 2,251, which represents an increase of 284 members for the fiscal year.

Edwin B. Newman was in charge of local arrangements for the meeting. He was assisted by Chester Bennett, Charles McArthur, Leonard Mead, Edward H. Nowlan, SJ, Bertrand Warren, and Michael Zigler. The Program Committee, consisting of Douglas Courtney, chairman; Joseph M. Bobbitt, and Eliot Stellar, scheduled 151 scientific papers (presented in twenty sessions), 4 symposia, and 5 special meetings. Neal E. Miller presented the annual Presidential Address entitled "A Theoretical and Experimental Analysis of Conflict Behavior."

Among the more significant items transacted at the Annual Business Meeting and at the Board of Directors Meeting were the following:

1. Harold Schlosberg was elected President (1953–54) and Charles N. Cofer and Neal E. Miller were elected to the Board of Directors (1953–56). Norman O. Frederiksen was elected Treasurer for a three-year term (1953–56).

2. The following appointments and reappointments were made: Committee on Local Arrangements, Richard P. Youtz, chairman; Program Committee, Edward J. Shoben; Membership Committee, Andrew H. Souerwine; Election Committee, Mortimer H. Applezweig; Auditing Committee, Lyle H. Lanier and J. McV. Hunt; Representative to AAAS, Herbert W. Rogers; Representatives to American Academy of Political and Social Science, Solomon Asch and James C. Diggory.

3. It was announced that the 1954 meeting will be held at the Hotel New Yorker in New York City on April 9 and 10. The meeting the following year will be held at the Hotel Benjamin Franklin in Philadelphia.

4. Four non-APA members were approved for membership and one was rejected.

5. A motion was adopted expressing appreciation to Wilbert S. Ray, the retiring Treasurer.

6. The Association voted to express its thanks to the Committee on Local Arrangements, the Boston Convention Bureau, and the Hotel Statler.

7. The Association adopted a resolution concerning academic freedom. Essentially, the resolution reaffirmed the necessity for freedom of scientific inquiry and expression and deplored attempts to limit such freedom.

8. The interim report and budget were presented by the Treasurer, Wilbert S. Ray. Both reports were approved. The Treasurer's audited financial statement for the fiscal year 1952–53 follows:

FINANCIAL STATEMENT AS OF MAY 1, 1953

For the Fiscal Year 1952–53

INCOME

Membership dues		
Dues for current year, 1952–53	$1650.03	
Dues in arrears	183.00	
Dues paid in advance	14.00	
Guest fees	431.00	
Sale of programs	40.25	
Interest on savings account	71.31	
Exhibitors' fees	506.00	
Total income		$2895.59

EXPENDITURES

Publication of proceedings	$ 298.65	
Office of the secretary	1350.10	
Office of the treasurer	50.00	
Printing, supplies, postage	831.08	
Program committee	71.60	
Traveling expenses of officers	49.35	
Miscellaneous	21.05	
Special gifts to APA	400.00	
Expenses at annual meeting	520.95	
Total expenditures		$3592.78
Deficit for 1952–53		$ 697.19

BALANCE SHEET

Cash: Bank of New York		$1752.90
New York Savings Bank		2326.23
Total cash		$4079.13
Capital: As of May 1, 1952		$4776.32
Deficit for 1952–53		697.19
Total capital		$4079.13

We, the Auditing Committee for the year 1952–53, have examined the records in connection with this statement and find it to be a true and correct account.

Signed ....
J. MCV. HUNT LYLE H. LANIER

PROGRAM

Perception and Personality

JOSEPH MASLING, *Institute for Research in Human Relations,* Chairman

Verbal inhibition in subception. JOHN LOWENFELD, *The Pennsylvania State College.*

Stimulus generalization in subception. SEYMOUR RUBENFELD, *The Pennsylvania State College.*

Retention of affectively toned verbal material by normals and neurotics. SAMUEL F. KLUGMAN, *VA Hospital, Coatesville, Pennsylvania.*

Perceptual behavior of "normal" and "abnormal" individuals. BLOSSOM T. WIGDOR, *McGill University and Queen Mary Veterans Hospital, Montreal, Quebec.*

The relationship of cooperation to the sharpening-leveling continuum. DANIEL G. TEAR AND GEORGE M. GUTHRIE, *The Pennsylvania State College.*

The consistency of psychological defenses against threat. RICHARD S. LAZARUS, *The Johns Hopkins University.*

Relevant attitude as a factor in the interpretation of social events. DANIEL M. WILNER, *Research Center for Human Relations, New York University.*

The relationship between general attitude toward the army and specific attitudes of acceptance and/or rejection of items of QM issue. JAMES F. PARKER AND RAY C. HACKMAN, *University of Maryland.*

Clinical Psychology I

G. WILSON SHAFFER, *The Johns Hopkins University,* Chairman

Family group therapy as a treatment method. JOHN E. BELL, *Clark University.*

The clinician as judge: the reliability and validity of judgments of adjustment inferred from Rorschach single-card performance. S. THOMAS CUMMINGS, *Aspinwall VA Hospital and the University of Pittsburgh.*

The clinician as judge: the reliability and validity of judgments based on total Rorschachs and on summaries of comprehensive clinical studies. RICHARD L. NEWTON, *Western Psychiatric Institute and Clinic and the University of Pittsburgh.*

The clinician as judge: implications of a series of studies. ROY M. HAMLIN, *Western Psychiatric Institute and Clinic and the University of Pittsburgh.*

An investigation of some differences between symptomatic and idiopathic epileptics and between epileptics and nonepileptics. CYNTHIA P. DEUTSCH, *Hofstra College and Montefiore Hospital, Bronx, New York.*

The paradoxical effects of prefrontal lobotomy. J. Q. HOLSOPPLE, RICHARD L. JENKINS, AND FLORENCE R. MIALE, *Veterans Administration, Washington, D. C. and City College, New York.*

The prediction of irregular discharges in the hospitalization of the tuberculous by means of psychological tests. LEE GUREL AND THORNTON S. JENNINGS, *VA Center, Martinsburg, West Virginia.*

The prediction of course and outcome in schizophrenia. FRANK ROSENBLATT, *Cornell University.*

Evaluation and Measurement I

FREDERICK B. DAVIS, *Hunter College,* Chairman

The effects of certain types of preparation for the selective service college qualification test. DOUGLAS G. SCHULTZ, *Educational Testing Service.*

Methodology of reliability and validity studies in a college guidance poll. E. M. BENNETT, R. ALPERT, R. L. BLOMQUIST, AND A. C. GOLDSTEIN, *Tufts College.*

Development of a factor battery for student nurses. NATHAN JASPEN, *National League for Nursing.*

Mechanistic versus nonmechanistic techniques for reading improvements on the college level. SHIRLEY ULLMAN WEDEEN, *Brooklyn College.*

The development and construction of a career inventory for occupational therapy. HYMAN BRANDT, *American Occupational Therapy Association.*

An experimental comparison of two forms of a scale of manifest anxiety. JOYCE B. MCCREARY AND A. W. BENDIG, *University of Pittsburgh.*

Using trend-fitting predictor weights to improve cross-validation. ROBERT PERLOFF, *Personnel Research Section, AGO.*

A pictorial technique for studying ethnic attitudes. ROBERT CHIN, MARTIN GROSSACK, FREDDIE SABGHIR, AND LAWRENCE SCHLESINGER, *Boston University, Air Force School of Aviation Medicine, and the George Washington University.*

Human Learning

STANLEY G. ESTES, *Harvard University,* Chairman

A study of factors influencing incidental learning. GEORGE HASKELL BROWN, *New York University.*

The effects of shock threat on the responses to relevant and incidental stimuli. ROBERT E. SILVERMAN, *New York University.*

Latent learning and discrimination reversal in human discrimination learning. LEIGH MINTURN, *Harvard University.*

The influence of alteration of stimulus context on generalization in verbal learning in the negative transfer situation. NORMAN M. PARIS, *University of Maryland.*

Proactive inhibition as a function of degree of original learning. HARRY SANDS, *The Committee for Public Understanding of Epilepsy.*

Some effects of categories on recall. RAVENNA MATHEWS, *Smith College.*

Temporal changes in the organization of recalled words. HOWARD BRAND, *University of Connecticut.*

Physiological Psychology

ELIOT STELLAR, *The Johns Hopkins University,* Chairman

The influence of three constant temperatures upon the psychosomatic development of white mice. W. T. APPELL, *Adelphi College and Hillside Hospital, Glen Oaks, Long Island.*

Muscle action potentials produced in various ways and their relation to "breakdown" in ergographic work. SHERWIN J. KLEIN, *Aeronautical Medical Equipment Laboratory, Philadelphia Naval Base.*

Pure mental effort and cardiac potentials. ADELBERT FORD, *Lehigh University.*

Effects of castration and androgen administration upon sexual activity in male dogs. JERRY KAGAN, SHERMAN J. TATZ, AND FRANK A. BEACH, *Yale University.*

Disturbances in eating as a result of hypothalamic lesions. PHILIP TEITELBAUM, *The Johns Hopkins University.*

Time-error for weight judgment after brain injury. SIDNEY WEINSTEIN, *New York University College of Medicine.*

Cortical organization in gustation (*macaca mulatta*). KARL H. PRIBRAM, *Institute of Living.*

Qualitative changes of the cortical response to auditory clicks caused by interference with the peripheral organ. KARL LOWY AND PAUL COLEMAN, *University of Rochester.*

SYMPOSIA

The Application of Animal Studies on Acquired Drive to Problems in Human Motivation. MARTIN KOHN, Chairman; DANIEL E. BERLYNE, EDWARD J. MURRAY, EDWARD J. SHOBEN, JR., DAVID C. MCCLELLAND, AND MITCHELL M. BERKUN.

The Meaning of Psychological Health. KARL F. HEISER, Chairman; JULIUS WISHNER, MARIE JAHODA, AND ABRAHAM H. MASLOW.

The Nonprojective Aspects of the Rorschach Experiment. JOSEPH ZUBIN, Chairman; JAMES J. GIBSON, EUGENIA HANFMANN, ELSA M. SIIPOLA, HEINZ WERNER, AND SEYMOUR WAPNER.

The Prognostic Use of Personality Tests. ZYGMUNT A. PIOTROWSKI, Chairman; JOHN E.

BELL, DANIEL BROWER, FLORENCE HALPERN, EMANUEL HAMMER, ROSE PALM, AND HENRY P. DAVID.

SPECIAL MEETINGS

The Problems of Private Practice. ALBERT ELLIS, Chairman; LAWRENCE E. ABT, MOLLY HARROWER, MAX SIEGEL, ROBERT D. WEITZ, AND JESSE ZIZMOR.

The Relevance of Social Research for War Prevention. HERBERT C. KELMAN, Chairman; S. STANSFELD SARGENT, AND PITIRIM A. SOROKIN.

The Committee on Subdoctoral Education. BRUCE MOORE, Chairman.

Proposals for the Institute on Medical Psychology. ARTHUR WEIDER, Chairman.

Psi Chi. MAX MEENES, Chairman.

Clinical Psychology II

EUGENIA HANFMANN, *Harvard University*, Chairman

An investigation of relationships between clinically-observed emotional behavior in children and Rorschach test indicators of emotional response. J. WARREN THIESEN, LOUISE FAVORITE, AND PHYLLIS COFF, *Boston VA Regional Office Mental Hygiene Unit and East Providence Public Schools System.*

Some behavioral correlates of Rorschach's experience-type in schizophrenics. JEROME L. SINGER AND HERBERT E. SPOHN, *Franklin D. Roosevelt VA Hospital and Teachers College, Columbia University.*

The *W*% on the Rorschach as a measure of orality. THOMAS KAVAZANJIAN AND MILTON S. GURVITZ, *New York State Department of Mental Hygiene and Hillside Hospital, Glen Oaks, Long Island.*

The effects of an experimental set to simulate abnormality on group Rorschach performance. MARVIN J. FELDMAN AND JAMES GRALEY, *University of Buffalo.*

The impact of color on the perceptual and associative processes. JULES D. HOLZBERG AND MAXWELL J. SCHLEIFER, *Connecticut State Hospital.*

The relationships of Rorschach determinants to intellectual level in mentally defective subjects as compared with normal subjects. HERMAN D. ARBITMAN, *The Training School, Vineland, New Jersey.*

Factors influencing rigidity in the feebleminded: an examination of the Kounin-Lewin theory. E. PAUL BENOIT, GEORGE N. ORNSTEIN, AND HOWARD BRAND, *University of Connecticut.*

The projection of need achievement: a re-examination. CHARLES C. MCARTHUR, *Harvard University.*

Social Psychology

S. STANSFELD SARGENT, *Barnard College*, Chairman

An experimental study of conformity to group norms in groups differing in cohesiveness. SEYMOUR LEVY, *New York University.*

Performance of small-group leaders under experimentally induced stress. EUGENE H. GALANTER, *Institute for Research in Human Relations.*

A comparison of three socioeconomic status indices among groups with different vocational interest patterns. JOHN W. GUSTAD, *University of Maryland.*

A social-psychological instrument for the study of prejudice—six years later. JUDY F. ROSENBLITH, *Simmons College.*

Cultural and sex-role determinants of a reaction to anxiety. ARNOLD MEADOW AND MARVIN KAPLAN, *University of Buffalo.*

Manifestations of authoritarianism and equalitarianism in German exchangees. F. LOYAL GREER, *Institute for Research in Human Relations.*

An empirical analysis of the effectiveness of psychological warfare. T. G. ANDREWS, DENZEL D. SMITH, AND LESSING A. KAHN, *University of Maryland, Office of Naval Research, and Army Operations Research Office.*

Childhood and Adolescence

GORHAM LANE, *University of Delaware*, Chairman

An evaluation of the Wechsler Intelligence Scale for Children in the prediction of children's reaction to stress. ELI Z. RUBIN, *Emma Pendleton Bradley Home and Brown University.*

Subdominant cultural influences on children's responses to personality tests. EDITH E. LORD, *Veterans Administration, New York.*

A comparative study of intelligence test performance in a group of epileptic children. JANICE PAGE NEU, *Presbyterian Hospital, New York.*

A study of "parent identification" of male and female subjects. ERNST G. BEIER AND FRED RATZEBURG, *Syracuse University.*

The effects of adult nurturance and nonnurturance upon the dependent behavior of young children. JEAN CARL COHEN, *Smith College.*

Adolescent descriptions of peers at three economic levels. MORTIMER R. FEINBERG AND ROBERT L. SCHMIDT, *City College of New York and Richardson, Bellows, Henry & Co., Inc.*

Animal Behavior I

CARL PFAFFMANN, *Brown University,* Chairman

The behavior sample and the rate index as dependent variables in the study of the effects of drugs, trauma, and disease on operant behavior. OGDEN R. LINDSLEY AND WALTER W. JETTER, *Harvard University and Boston University School of Medicine.*

Stimulus control of alternating schedules of reinforcement. B. F. SKINNER AND C. B. FERSTER, *Harvard University.*

Alternating schedules of reinforcement without stimulus control. C. B. FERSTER AND B. F. SKINNER, *Harvard University.*

A comparison of three measures of hunger. MARION L. KESSEN, *Yale University.*

Satiation effects of saccharin by mouth versus saccharin by stomach fistula as measured by a consummatory response. WARREN W. ROBERTS, *Yale University.*

The relation between drive level during training and response amplitude during extinction. BYRON A. CAMPBELL AND DORIS KRAELING, *Yale University.*

Is exploratory behavior motivated by the general activity drive? K. C. MONTGOMERY, *Yale University.*

Perception

JAMES J. GIBSON, *Cornell University,* Chairman

The interaction of retinal and muscular factors in visual localization. JAN H. BRUELL, *Clark University.*

The influence of dimensionality and position on the perceiving of visual figures. BURTON H. COHEN AND HOWARD BRAND, *University of Connecticut.*

An "objective" quantitative index of figural "goodness." EDWARD H. MCALISTER AND JULIAN E. HOCHBERG, *Cornell University.*

Poor production of "the good Gestalt" by nursery school children. ARTHUR I. SIEGEL AND HALIM OZKAPTAN, *Institute for Research in Human Relations and Fordham University.*

Immediate and delayed recognition of geometric form. EZRA V. SAUL, *Tufts College.*

The effect of perceptual motion on body motion. KENNETH A. CHANDLER, *Clark University.*

The influence of scale position on the performed extent of melodic octaves. JOHN F. CORSO, *The Pennsylvania State College.*

Vision

MICHAEL J. ZIGLER, *Wellesley College,* Chairman

The threshold of electrical phosphenes as a function of the time interval after stimulation with various hues. RICHARD M. MICHAELS AND BERNARD H. FOX, *The George Washington University.*

Spectral sensitivity of the human foveal cones as determined by the method of flicker. RICHARD T. SEGERS, SJ AND MARILY T. MURPHY, *Fordham University.*

Spectral sensitivity at the fovea and state of adaptation. LEO M. HURVICH AND D. JAMESON, *Eastman Kodak Company.*

The initial time course of light adaptation. ROBERT M. BOYNTON, *University of Rochester.*

Effects of stimulus intensity and area upon the electrical response of the light-adapted human eye. JOHN C. ARMINGTON, *Walter Reed Army Medical Center.*

The visibility of a target as a function of its speed of movement. W. T. POLLOCK, *The Johns Hopkins University.*

Absolute and form-perception thresholds for dim visual stimuli. HAROLD W. HAKE AND CHARLES W. BAKER, *The Johns Hopkins University.*

The effect of auditory stimulation on visual brightness. THOMAS B. MULHOLLAND, JR., *Clark University.*

PRESIDENTIAL ADDRESS AND ANNUAL BUSINESS MEETING

FRANK A. BEACH, Chairman

Presidential Address: A Theoretical and Experimental Analysis of Conflict Behavior.

NEAL E. MILLER

Clinical Psychology III

CHESTER BENNETT, *Boston University*, Chairman

A study of self attitudes after success and failure. LEONARD DILLER, *New York University, Bellevue Medical Center.*

The measurement of flexibility-rigidity. MANUEL CYNAMON, *Brooklyn College.*

The relation of behavioral rigidity to age, IQ, sex, and mental status. ABRAHAM S. LUCHINS, *McGill University.*

On the depressive component in paranoid schizophrenia. EDWIN ANTINOPH AND MILTON S. GURVITZ, *Hillside Hospital, Glen Oaks, Long Island.*

Identification of 12 factors descriptive of psychopathology in hospitalized psychotic patients. MAURICE LORR, J. P. O'CONNOR, AND R. L. JENKINS, *Veterans Administration and Catholic University.*

The relationship between anxiety and responses to humorous cartoons dealing with hostile aggression. JULIUS LAFFAL, JACOB LEVINE, FREDERICK C. REDLICH, AND ELLA Y. FIERMAN, *Yale University and VA Hospital, Newington, Connecticut.*

Postmortem on the "tuberculous personality." DANIEL H. HARRIS, *Champlain College.*

Discrimination learning of mentally deficient patients. ALAN GESSNER, *Rosewood State Training School and The Pennsylvania State College.*

Personality and Social

CHARLES N. COFER, *University of Maryland*, Chairman

Comparison of the effectiveness of improvised versus nonimprovised role playing in producing opinion changes. BERT T. KING AND IRVING L. JANIS, *Yale University.*

Sociometric choice as a function of personality and prestige variables. ROBERT W. GILMORE AND F. LOYAL GREER, *Institute for Research in Human Relations.*

Personality correlates of influencibility. IRVING L. JANIS, *Yale University.*

The effect of a partner's success or failure in a related task on convergence in group judgment. BERNARD MAUSNER, *University of Massachusetts.*

The impressions of a person who belongs to conflicting groups. ALBERT PEPITONE, *University of Pennsylvania.*

Leadership and group dynamics. BENJAMIN B. WOLMAN, *College of the City of New York.*

The automorphic process in the attribution of values. JOSEPH A. PRECKER, *Columbia University.*

Electromyographic and thematic analysis of psychotherapeutic interviews. ROBERT B. MALMO AND CHARLES SHAGASS, *Allan Memorial Institute of Psychiatry, Montreal, Canada.*

Evaluation and Measurement II

THELMA HUNT, *The George Washington University*, Chairman

Psychodynamic implications of standardized test score patterns. CLARE W. GRAVES, *Union College.*

A study of the rationale for matching projective tests as given by successful versus unsuccessful matchers. JOSEPH G. PHELAN AND JAMES Q. HOLSOPPLE, *Stevens Institute of Technology and Veterans Administration, Washington, D. C.*

The validity of aptitude ratings made by (*a*) reading job descriptions and (*b*) direct job observation. MARVIN H. TRATTNER, SIDNEY A. FINE, AND JOSEPH F. KUBIS, *Fordham University and U. S. Employment Service.*

Selection of trade apprentices. FREDERICK J. GAUDET AND J. MYRON JOHNSON, *Stevens Institute of Technology.*

A short-cut method for job and wage evaluation. JEROME S. KORNREICH, *M.K.M. Knitting Mills, Inc.*

How valid are the Flesch indices? JOSEPH N. RUOCCO AND WILLIAM J. E. CRISSY, *Fordham University.*

The use of voter registration lists in polling: an empirical study. H. WALLACE SINAIKO, *Naval Research Laboratory, Washington, D. C.*

A demonstration of a modified analysis of variance used to obtain comparable reliability measures of observers, groups, and individual subjects in group dynamics data. EDGAR L. SHRIVER AND BEATRICE M. SHRIVER, *University of Pittsburgh and American Institute for Research.*

The significance for clinicians of Corter's study of reasoning as re-rotated. ROBERT G. BERNREUTER, *The Pennsylvania State College.*

General Experimental

WESTON A. BOUSFIELD, *University of Connecticut,* Chairman

Some experimental observations on the relation of subjective weight scales to certain real life situations. JOHN E. KARLIN, *Bell Telephone Laboratories, Inc.*

The amount of information in absolute judgments as a function of multidimensional stimulus differences. CHARLES W. ERIKSEN, *The Johns Hopkins University.*

The informational content of "wrong" responses. IRWIN POLLACK, *Human Resources Research Laboratories, Bolling Air Force Base.*

Reconstruction of abbreviated printed messages. ALPHONSE CHAPANIS, *The John Hopkins University.*

The similarity between risky decisions in gambling and nongambling situations. WARD EDWARDS, *The Johns Hopkins University.*

Mediated generalization of conceptual behavior. DONALD H. BULLOCK AND ROBERT L. WEISS, *University of Buffalo.*

Acquisition of a discriminative motor task as a function of warm-up and of pre-experimentally and experimentally acquired discriminative verbal responses. ALBERT E. GOSS, *University of Massachusetts.*

The effects of conditioned and reactive inhibition on pursuit tracking latency. J. H. BOWEN, T. G. ANDREWS, AND SHERMAN ROSS, *University of Maryland.*

Conditioning

FRED D. SHEFFIELD, *Yale University,* Chairman

Escape from shock and the rate of application of shock. W. KESSEN AND M. KESSEN, *Yale University.*

Effects of the shock-delay interval upon the white rat's rate of avoidance behavior in a two-response situation. MURRAY SIDMAN, *Neuropsychiatry Division, Army Medical Service Graduate School.*

Traumatic avoidance learning: the effects of various CS-US intervals on acquisition and extinction in dogs. ELINOR S. BRUSH, F. ROBERT BRUSH, AND RICHARD L. SOLOMON, *Harvard University.*

Traumatic avoidance learning: acquisition, extinction, and anxiety as functions of the interval between conditioned and unconditioned stimuli. LEON J. KAMIN, *Harvard University.*

Traumatic avoidance learning: failure of epinephrine, norepinephrine, and mecholyl to reinstate an extinguished avoidance response. ELAINE SMULEKOFF, R. L. SOLOMON, PETER WATSON, AND LYMAN WYNNE, *Harvard University.*

Avoidance conditioning and extinction in the Rhesus monkey. R. A. PATTON AND ROBERT MILLER, *University of Pittsburgh.*

A mathematical model for conditioning. GEORGE W. BOGUSLAVSKY, *Cornell University.*

Animal Learning II

RICHARD L. SOLOMON, *Harvard University,* Chairman

The effect of electro-convulsive shock on fixated behavior of the rat. CLAUDE C. NEET AND ROBERT S. FELDMAN, *University of Massachusetts.*

The effect of audiogenic convulsions on a conditioned emotional response. JOSEPH V. BRADY, WILLIAM C. STEBBINS, AND ROBERT GALAMBOS, *Walter Reed Army Medical Center.*

Gustatory cues as sensory control in maze learning. I. HAMMOND CUBBAGE AND HALSEY M. MACPHEE, *University of Delaware.*

Anticipative transfer of mechanically guided turns. GEORGE M. HASLERUD, *University of New Hampshire.*

Exploratory behavior in normal and restricted dogs. WILLIAM R. THOMPSON AND WOODBURN HERON, *McGill University.*

Effect of total body x-radiation on delayed response performance of exercised dogs. ALBERTO DI-MASCIO, JOHN FULLER, WALTER JETTER, AND NATHAN AZRIN, *Boston University and Jackson Memorial Laboratory.*

Personality Evaluation

DAVID V. TIEDEMAN, *Harvard University,* Chairman

Sentential calculus and small group experimentation: a methodogical study. SCARVIA B. ANDERSON, OMAR K. MOORE, AND RICHARD S. RUDNER, *Tufts College.*

Development and validation of a group projective test structured for the prediction of leadership ratings. HENRY N. RICCIUTI, *Educational Testing Service.*

An objective method for the evaluation of the individual's participation in group discussion. DAVID FOX, IRVING LORGE, KENNETH HERROLD, AND JOEL DAVITZ, *Teachers College, Columbia University.*

The appraisal of group discussion efficiency by the "feed-in design" and "tracer technique." IRVING LORGE, DAVID FOX, KENNETH HERROLD, AND JOEL DAVITZ, *Teachers College, Columbia University.*

The relationship between "test anxiety" and "other anxieties." EDWARD M. GORDON AND SEYMOUR B. SARASON, *Yale University.*

An investigation of some relationships between two measures of self-regarding attitudes. EMORY L. COWEN, *University of Rochester.*

Word frequency and the measurement of value areas. DONALD R. BROWN AND J. KENNEDY ADAMS, *Bryn Mawr College.*

The influence of judges' attitudes in three methods of attitude scaling. HAROLD H. KELLEY, CARL I. HOVLAND, MARVIN SCHWARTZ, AND ROBERT P. ABELSON, *Yale University.*

Perceptual-Motor Skills

S. D. S. SPRAGG, *University of Rochester,* Chairman

Building "feel" into controls: the role of proprioceptive feedback in motor responses. BERNARD WEISS, *University of Rochester.*

The instrumental dimension of motion in relation to tracking accuracy. ROBERT S. LINCOLN, *The Johns Hopkins University.*

The accuracy of linear-positioning reactions after a temporal delay. LAWRENCE T. ALEXANDER, *The Johns Hopkins University.*

The effect of display-control movement continuity on a complex coordination task. R. F. GREEN AND S. D. S. SPRAGG, *University of Rochester.*

Improvement of tracking through restoration of lost information. HENRY P. BIRMINGHAM, *Naval Research Laboratory, Washington, D. C.*

Transfer effects in psychomotor performance as a function of reversal of cue-response relationship on alternate blocks of trials. B. G. ANDREAS AND R. F. GREEN, *University of Rochester.*

The interference of a secondary verbal task on a primary perceptual-motor task. WILLIAM D. GARVEY AND WILLIAM B. KNOWLES, *Naval Research Laboratory, Washington, D. C.*

Audition

GEORGE A. MILLER,
Massachusetts Institute of Technology, Chairman

Inhibition, externalization, and phasing in discrimination. J. D. HARRIS, *U. S. Naval Medical Research Laboratory, New London, Connecticut.*

The locus of auditory adaptation. ANITA I. ROWNSLEY, *U. S. Naval Medical Research Laboratory, New London, Connecticut.*

Equi-noxious exposures in auditory fatigue. PATRICIA KELSEY PERRY, *U. S. Naval Medical Research Laboratory, New London, Connecticut.*

Absolute pitch and mel separation. ELLIS B. HARTMAN, *U. S. Naval Medical Research Laboratory, New London, Connecticut.*

Frequency selectivity in vertebrates lacking a basilar membrane. GLORIA TELAGE, *U. S. Naval Medical Research Laboratory, New London, Connecticut.*

Earphone voltage vs. sound pressure level by probe tube in auditory threshold measurements. C. E. WHITE AND C. K. MYERS, *U. S. Naval Medical Research Laboratory, New London, Connecticut.*

The galvanic skin response as an objective measure of loudness. ROBERT E. EDWARDS, *New York State Psychiatric Institute.*

PROCEEDINGS OF THE TWENTY-THIRD ANNUAL MEETING OF THE ROCKY MOUNTAIN BRANCH OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

LAWRENCE S. ROGERS, *Secretary*

Veterans Administration, Denver

THE Rocky Mountain Branch of the American Psychological Association held its twenty-third annual meeting on April 3 and 4, 1953, at the University of New Mexico, Albuquerque, New Mexico. Over 100 members and guests attended.

There were 13 scientific papers read and a symposium was held on "Reinforcement Theory." A regional meeting and luncheon were held by Psi Chi under the chairmanship of Dr. Anna Y. Martin of New Mexico Highlands University. There was also a meeting to discuss problems in practicum training held under the auspices of the APA Education and Training Board, Committee on Practicum Training, and Division 12, with Dr. Victor C. Raimy, University of Colorado, and Dr. Lawrence S. Rogers, Veterans Administration, Denver, acting as co-chairmen. Another special meeting was held at the request of the Committee on Subdoctoral Training to discuss the report of that Committee, under the chairmanship of Dr. Alfred B. Shaklee, University of Denver.

Dr. Ralph Norman, President, served as chairman of the business meeting. The place for the next annual meeting has not been decided. Serious consideration will be given to breaking away from the Colorado-Wyoming Academy of Science and to planning a meeting in the near future in the State of Utah. The organization unanimously recorded its gratitude to the University of New Mexico, and to Dr. George M. Peterson and Dr. Ralph Norman for the courtesies and hospitality shown during the meeting.

The following officers were unanimously elected for the ensuing year: President, H. B. McFadden, University of Wyoming; President-elect, Lawrence S. Rogers, Veterans Administration, Denver; and Secretary, Margaret Thaler, Mental Hygiene Clinic, Colorado General Hospital, Denver, Colorado. Virginia M. Brown, Lowry Air Force Base, Denver, continues to serve as Treasurer.

PROGRAM

Friday Morning

JOEL E. GREENE, Chairman

Emotional instability in adolescents at the Wyoming Girls' School. CECELIA SANCHEZ AND LILLIAN G. PORTENIER, *University of Wyoming.*

Some comments on the psychological nature of primary dysmenorrhea. P. STUART BOYD, *Department of Medicine, University of Colorado.*

An exploratory study of rigidity in problem-solving. DAVID T. BENEDETTI AND HOWARD O. DOUGLASS, *University of New Mexico.*

Generalization of an avoidance response to varying intensities of sound. W. C. MILLER AND J. E. GREENE, *University of Denver.*

An experimental investigation of factors influencing musical preference. MORTON J. KESTON, *University of New Mexico.*

Construction of scales for the evaluation of guidance practices in the elementary school. FLOYD P. PERRY, *Eastern New Mexico University,* AND JACK SHAW, *Colorado State College of Education.*

Friday Afternoon

Symposium: Reinforcement Theory

H. B. MCFADDEN, Chairman; KARL F. MUENZINGER, ROBERT H. BRUCE, DONALD D. GLAD, AND DANIEL G. BROWN

Saturday Morning

JOHN SALAZAR, Chairman

Sex differences and other aspects of superior adult performance on the Wechsler-Bellevue Scale. RALPH D. NORMAN, *University of New Mexico.*

The verbal element in intelligence scores of congenitally deaf and of hard-of-hearing children. ED GLOWATSKY AND ANNA Y. MARTIN, *New Mexico Highlands University.*

The use of the Wechsler-Bellevue as a measurement of intelligence in the aged. LAURENCE L. FROST AND MARGARET THALER, *Division of Psychosomatic Medicine, Colorado General Hospital, Denver, Colorado.*

Abstract and concrete attitudes as a function of age. MARGARET B. THALER AND LAURENCE L. FROST, *Division of Psychosomatic Medicine, Colorado General Hospital, Denver, Colorado.*

New approaches to investigation of the Rorschach test. FREDERICK J. TODD, *Veterans Administration, Denver,* AND KENNETH R. HAMMOND, *University of Colorado.*

Some observations of the psychopathic personality as a result of lobotomy. JAMES W. SANDDAL, *Wyoming State Hospital.*

A determination of industrial morals for use in secondary school guidance placement services. ARNOLD O. MYHRE AND ARNO H. LUKER, *Colorado State College of Education.*

Comment

Air Force Clinical Psychology Duty Assignments

In regard to Robert M. Allen's article "What Is Clinical Psychology" in the October, 1952 *American Psychologist,* I would like to add that the Air Force has modified its levels of Clinical Psychology duty assignments. During March, 1952 the Air Force converted the old designations of Clinical Psychologist (MOS 2232) and Psychological Assistant (MOS 2239)* to Clinical Psychologist (AFSC 9186: Grade Second Lieutenant to Colonel). The duty assignments in the Airman Medical Career Field are: Medical Service Superintendent (AFSC 90000: Grade Warrant Officer), Medical Services Supervisor (AFSC 90270: Grade E6 and E7), Senior Neuropsychiatric Specialist (AFSC 90251: Grade E4 and E5), Neuropsychiatric Apprentice (AFSC 90231: Grade E3 and E4).

REFERENCES

1. Air Force Manual 36–1, Officers' Classification Manual, 1 January 1953. Washington: U. S. Government Printing Office, 1952.
2. Air Force Regulation 35–490 Airman Medical Career Field, 26 October 1950.

VINCENT WALLEN
1st Lt., USAF
2200th Test Squadron

Comment on Hoppock's: "What Is the 'Real' Problem?"

It is quite disconcerting to note the implications of Robert Hoppock's "What Is the 'Real' Problem?" (*Amer. Psychologist,* 1953, **8**, 124). He censors the frequency with which counseling is based on certain unverified assumptions about the relationship between "surface" and "real" problems, because this offers too much opportunity for projection on the counselor's part. Since he does not give any specific alternatives which are preferable, we feel justified in inferring that his comment is a plea for sticking closer to the client's stated problem. This, at least, is the feeling he communicates to us. Hoppock's thesis is so disconcerting to us because we have seen so many clients in whom the interrelationship between the stated problem and more basic indecisions and conflicts was very close. When permitted to ventilate, and with minimum pressure from the counselor, many of these clients were able to accept these relationships. Further, they can perceive that a solution to their stated problem involved solutions of their more general problems. Since this kind of experience is common among counselors, we feel that Dr. Hoppock's position is one-sided.

It is necessary, for the purpose of this discussion, to define the goals of counseling. It is essential that the counselor help the client work out a solution to his problem which is commensurate with his needs and values. Many counselors feel that more general growth and maturation are an integral part of this process. Thus, counseling is not essentially a matter of environmental manipulation or giving of information, although in certain situations these factors may enter in. Various factors may limit these more inclusive goals: on the client's side, matters like motivation for change, finances, age; on the counselor's side, training, personality, resources of the agency.

In trying to be of maximum help, considering the above limitations, the counselor can err in *two* directions. He can either unduly dwell on those problems in which he is specially interested, or he can fail to see the relationship between the stated problem and the deeper conflicts. Both errors may well be reflections of the counselor's personality. In the first situation which is illustrated by Dr. Hoppock, the counselor is clearly projecting his emotional make-up into the situation, and we are in full agreement with his criticism of these inadequacies. However, he fails to point out that in a like manner the counselor's interests can reveal themselves by blocking the client's expression of more general and deeper areas which would correspond to what Dr. Hoppock terms the "real" problem. Here the counselor, who is overprotective of himself, is, in effect, saying: "Don't touch on areas which are threatening to me because I have not resolved these conflicts myself." In this case, the counselor is falling into the same trap as the client in accepting symptoms as the deeper cause. The distinctive function of the counselor is to help the client transcend this block to integration and resolution.

One of the important answers to the problem of avoiding both pitfalls is a greater emphasis on effective self-knowledge as part of the counselor's preparation. This is essential in the development of a sensitive therapist. Effective self-knowledge will aid him in being more objective, i.e., he will not try to gain personal satisfaction from his counseling contacts, and he will not be afraid to touch off emotionally charged areas in the client which are disturbing to him. This will enable him, first, to judge to what degree the stated problem is or is not the "real" problem, and second, to deal with the "real," i.e., more general, personality problem if it should be dealt with, in a manner less contaminated by the counselor's personal needs and interests.

PETER KAUFMANN AND
MELVIN E. ALLERHAND
VA Hospital
Tomah, Wisconsin

Activities for Promoting Better Understanding of the Functions of a Clinical Psychologist in Private Practice

Freeman discusses the difficulties of medical acceptance of a clinical psychologist in private practice. He recommends: "That we seek to obtain our ends by positive and not by negative measures" (*Amer. Psychologist*, 1953, **8**, 88–89). On this point, my experiences of the past five years may be useful to other clinical psychologists in private practice.

1. I am associated with a psychiatrist in private practice. Although we work independently most of the time, we both believe that the team approach is best for the patient's welfare. The medical men in our community of 60,000 know about our set-up. Many times the referred patient is told, "I don't know who will take care of you, but they will decide according to your needs."

2. I am consultant to the staff of a 250-bed general hospital in our city. This means I have an active clinic for testing, diagnosis, and therapy within the framework of the neuropsychiatric service. In addition, I do ward-consultation work, teaching, etc. Since no staff physician is paid, my services are also rendered free in the hospital except for private consultations. In return, the relationship between the staff and myself and the staff's opinion of clinical psychology are excellent.

3. I do not accept any patient who has not had a medical examination. After obtaining the patient's permission, I discuss the case with the physician and then send him a written report that he can understand. So many psychological reports that are sent to referring general physicians and psychiatrists are rather meaningless unless the medical man has been trained to understand certain psychological terminology. A good intelligible report goes a long way in establishing better relationship between the two professions. In fact, because of my reports to general practitioners, I have been recommended as consultant to several private agencies.

4. When a case involves a school child, I contact the principal, teacher, and guidance department. This not only is important for the patient's progress, but again, it is an opportunity for that segment of the community to know the type of service available in the community. To the school system, private consulting service is a valuable adjunct to its work.

5. There are many civic organizations that need professional help on their boards. I am invited to be a member of the board of many organizations because of my experience and training. As a clinical psychologist, I have helped organize public forums which have definite educational value.

6. Speaking without financial remuneration to lay groups such as P.T.A.'s, church groups, child study groups, civic clubs, etc. is an excellent step in the positive direction. The addresses must be factual, but at the same time scaled to the level of the group's comprehension. The difficulty of being a public speaker is that, in time, the engagements increase until a limit on the number of speaking dates must be made by the psychologist.

The above activities may appear to be simple, but they mean many extra hours of hard work. However, clinical psychology as a whole gains when one psychologist shows positively that we as a group have something valuable to offer society. If these and other extra activities were carried out by more clinical psychologists, then our stature would increase. Unfortunately, today some of our colleagues will not accept a free clinic, free ward work, free teaching of nurses and interns, nor will they work hard for civic organizations, speak without financial remuneration, etc. When we all contribute, then we will no longer have need to define the functions of a clinical psychologist in private practice—the clinical psychologist will "have arrived."

ROSE W. MARKS
Chester, Pennsylvania

Re A Museum of Psychology

I am far from opposed to the general idea of historical museums of scientific progress. But I am amazed at the kind of selection of materiel for a museum of psychology suggested by E. G. Boring. The stuff which he proposes is simply all the junk which may still be found in the garrets of college buildings after having been used for experimenting during the generation from 1880 to 1910.

We must have a valid criterion. I propose the following: The materiel must have an essential *connection* with the first conception of a now-established fundamental theory.

Let us apply the criterion to other sciences in order to learn thereby. Suppose someone picked up the various articles which Galileo (allegedly) dropped from the tower in Pisa and his heirs preserved them; they would belong in a museum of physics. If someone preserved the wire on which Galvani's frog legs were hung, that wire would belong in the same museum. If Dr. Fleming had preserved a little of his first batch of penicillin, that would belong in a museum of medicine.

Now let us think of psychology. Boring wants to include Ellis' harmonical. I know of no fundamental conception of the theory of music with the initiation of which Ellis' instrument is essentially connected. I built similar reed instruments in 1894, 1899, and 1902 offering experimental facilities far superior to the instrument of Ellis. Mine as well as that of Ellis are junk nowadays, although they served their original experimental purposes. The fundamental conception did

not originate in those brass-reeds but in *books dating from antiquity*. If the *well-tempered clavichord* of Sebastian Bach had been preserved, it should go into our museum, for it helped to establish an additional fundamental conception without destroying the old one. Unfortunately for our museum, that clavichord exists only as printer's ink on paper.

If Hering had preserved his *very first* construction of a "window with two slots of differently colored glass illuminating an otherwise dark room," that window should go into our museum; but it was destroyed long ago, although it established a fundamental conception.

If the nerve-muscle preparation with which Helmholtz established the conception of reaction time had been put in formaldehyde instead of being left to decay, it would belong in our museum. Perhaps a Hipp chronoscope should go into the museum because for the first time it allowed us to measure the reaction time of a whole animal conveniently in thousandths of a second. But certainly not because the word-loving Wundt dictated to a secretary who in his Saxon dialect pronounced the word "hübsch" identical with "hipsh." Wundt then left the entire job of proofreading to that secretary who had never heard of the famous-enough mechanician Hipp. This weakness of Wundt, if immortalized in a museum, would violate the ethical precept "de mortuis nil nisi bene."

Boring mentions the vowel-synthesizer of Helmholtz. Acceptable! It still existed a year after Helmholtz's death, for I had a chance to use it in 1895. But it surely has not escaped from the destruction of two wars and a Russian occupation of its resting place. However, I dissent from Boring's suggestion that the museum should have a *pseudo-replica* of the complex instrument *built out of electronic elements*. A museum which connects Helmholtz with electronics would be a fraud.

I cannot now think of any other instrument which in accordance with *my criterion* could be put into the museum. Maybe there are some things *which are still obtainable* and agree with that criterion. Perhaps in the fields of light, taste, and smell. But I object to the inclusion of anything analogous to a chip of stone which satisfies a curiosity-seeker because it was knocked off the Plymouth rock. By all means let us keep out mere junk offered on the argument that an early "psychology professor" once held it in his hands—for example, because Baldwin carried it in his baggage to Mexico.

At the utmost, the *testing instruments* used by Jastrow for the first time *publicly and systematically* in Chicago at the Columbian Exposition of 1893 might be accepted if *the originals could still be found* (which is improbable, incredible).

MAX F. MEYER
Miami, Florida

College Catalogues and Industrial Psychology

I was very much interested in the comments made in the May, 1953, issue of the *American Psychologist* by Donald G. Paterson and T. A. Ryan *et al.* about my analysis of courses in graduate psychology from college catalogues.[1] There seems to be some misunderstanding about my study which I would like to clear up.

In the first place, I certainly did not mean to imply in my study that a tally of the number of semester hours given by the department of psychology is the most reliable and valid method of assessing the adequacy of a training program. In fact, in my paper on this study I listed six limitations of my data and procedures. Unfortunately, these could not be published in my comment because of lack of space. I am fully aware of the many factors, other than a large quantity of courses, that make a training course in psychology adequate. Among these I include the factors mentioned by Paterson and Ryan. There are others which were not mentioned such as the professor's full-time experience in business and industry.

The fact remains, however, that catalogues are published for the guidance of prospective students. Further, I know of personnel directors who review catalogues when hiring an industrial psychologist. In view of this, I think that an analysis of the graduate courses in psychology from college catalogues has considerable value.

Both Paterson and Ryan say that an analysis of the courses given in the department of psychology does not give a true and adequate picture of the courses available to prospective students. This may be so, but this fact does not have much to do with my study since I specifically stated that my analysis and rating of the colleges was based on the graduate courses offered in the department of psychology. I am sure most colleges follow the practice of allowing students to take courses outside of the department of psychology. It was not possible to include such courses in my analysis because most of the colleges do not specify the specific courses they recommend outside of the department of psychology. It seems to me that a prospective student or guidance counselor would be faced with the same difficulty when evaluating the offering in a particular college. To avoid this difficulty, I would suggest that the department of psychology should indicate in some way the courses in the other departments that are recommended and available to graduate students of psychology. Such a practice is followed by Teachers College of Columbia University and is of immense value to the student in programming his courses each semester.

ADAM PORUBEN, JR.
New York, N. Y.

[1] PORUBEN, A., JR. Analysis of industrial psychology courses. *Amer. Psychologist*, 1953, 8, 50–52.

Across the Secretary's Desk

A National Manpower Board

Because of its timeliness, the following abstracted release from the Scientific Manpower Commission is printed here. The Scientific Manpower Commission, a private agency supported by a number of scientific organizations including APA, has as its primary concern the nation's proper utilization of specially trained personnel.—F. H. S.

In 1952 Congress passed the Armed Forces Act, which stipulates that ROTC graduates and Selective Service inductees shall constitute a military reserve upon completion of their tour of military training and service, and that the armed forces will have first call upon them for a total period of eight years. At the present rate of induction and ROTC training, this reserve will soon total more than ten million men, or approximately one-sixth of the nation's labor force. All of them can be immediately recalled into the armed services if international tensions mount or if hostilities should break out.

Since the law was passed, surveys of industry and representative groups of scientists have revealed that approximately 25 per cent of those constituting the reserve occupy key posts in essential industry. Quick mobilization could thus wreck vital industrial operations. From the standpoint of the military, something less than 3 per cent of the ten million are key men elsewhere in a national emergency, whereas these same people add not skill but mere numerical strength to the military reserve. With modern wars utilizing every technological device that can be invented and produced, it is a simple act of national self-preservation to tap the individuals who have the knowledge, skill, and experience to keep our armed forces at peak efficiency and effectiveness in military operations.

With this objective in mind a bill was introduced into the House of Representatives (H.R. 3893) by Representative Johnson (California) on March 11 and into the Senate (S. 1551) by Senator Flanders (Vermont) on April 2. This bill proposes that there be established in the Office of the President a National Manpower Board that will advise the President on problems relating to specialized personnel and that will serve as an appeals board to assure the most effective use of reservists who are recalled. The proposed Board would be composed of nine persons appointed by the President; not more than three would be members of the armed forces. The appointees "shall be persons who by training and experience are thoroughly familiar with the needs of the Armed Forces, defense production, and the national health, safety, and interest; and familiar with the functions of specialized personnel including the professions, such as engineering and the physical sciences, but not including the healing arts."

The Scientific Manpower Commission has given careful consideration to this proposed amendment to the Armed Forces Reservist Act of 1952 and is cooperating with the Engineering Manpower Commission and other organizations that are interested and concerned to have it enacted into law. The bill has taken the customary course of new legislation: It has been referred to the appropriate committees and subcommittees in the two houses and also to the Department of Defense for comment. Officially, the Department has not yet made its reactions public, but it is known that the Department is reluctant to relinquish its control over the reserve. The fact is that it will retain control under this amendment and that the proposed National Manpower Board will have jurisdiction over a comparatively small number of appeals, affecting substantially 3 per cent of the total reserve.

The Congress has recessed without scheduling hearings on the proposed amendment, but efforts will be made to assure hearings either in the House or in the Senate when Congress reconvenes. This legislation is of such importance to the scientists and engineers of the country that they should be fully informed regarding the provisions of the bill, its progress through the Congress, its reception in the Department of Defense, and its prospects of passage. As is always the case with legislation, public interest should be expressed vocally. It is hoped that scientists and engineers will make their thoughts known to their representatives in Congress. Until we learn to place some value on national brainpower, we shall be considerably less astute than our potential adversaries.

Psychological Notes and News

Lehman C. Hutchins, head of the department of psychology at Texas Technological College, died of a heart attack on April 22, 1953.

Martin L. Reymert, director of research for the Loyal Order of Moose and director of the Mooseheart Laboratory for Child Research since 1930, died on June 2, 1953, at the age of 69, after an illness of several months.

Colonel Joseph I. Greene died of a heart attack on June 25, 1953, at the age of 55. Colonel Greene was editor of the *Infantry Journal* since 1940 and then since 1950 editor of its successor, the *Combat Forces Journal*, and was active in the publication in 1943 of *Psychology for the Fighting Man* and in 1945 of *Psychology for the Returning Service Man.*

Evelyn Stuart Mason, psychologist and director of guidance at the Irvington, New Jersey public schools since 1940, died May 18, 1953.

Frampton Bailey Price, chief psychologist at the Naval Hospital, Oakland, California, died of a heart attack on May 24, 1953.

Kenneth W. Braly, senior psychologist of the Advisement Service, Los Angeles City Schools, died July 1, 1953, of a heart attack.

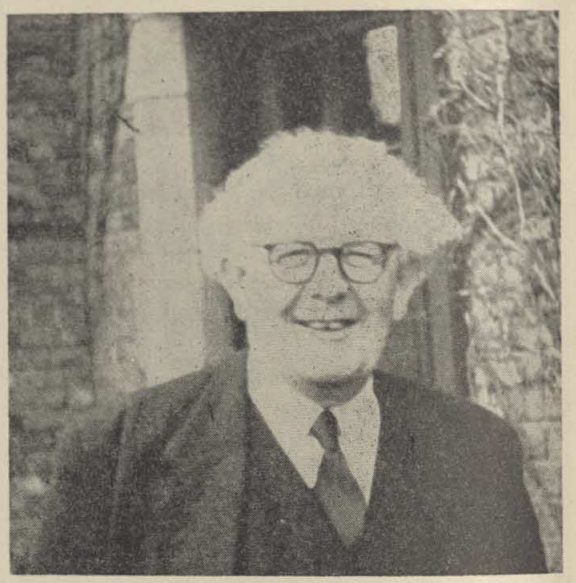
William Berry, assistant head, Physiological Psychology Branch, Office of Naval Research, died on July 11, 1953, of a heart attack.

H. M. Johnson, of the department of psychology at Tulane University, New Orleans, Louisiana, died of cancer on August 15, 1953.

Eloise S. Young, Cleveland, Ohio, died in the fall of 1952.

A. B. Kitzmiller, of Mount Union College, Alliance, Ohio, died in May, 1953.

Ernest H. Ward, State College, Long Beach, California, died in January, 1953.



JEAN PIAGET

The University of Chicago at its June 1953 convocation awarded the honorary degree of Doctor of Science to Jean Piaget.

George W. Albee, who has been Assistant Executive Secretary of the American Psychological Association, has been awarded a Fulbright teaching fellowship in clinical and social psychology at the University of Helsinki, Finland, for the year 1953–54.

Richard R. Willey, formerly director of the study of training and research in state mental health programs of the Council of State Governments, has been appointed to the APA Central Office staff with special responsibility for publication finances.

Robert S. Davidon, formerly of Champlain College, has been appointed assistant professor in the psychology department of Bryn Mawr College, to begin in the fall, 1953.

Anna Goodman, formerly personnel counselor at Brooklyn College, has recently been appointed school psychologist with the West Hempstead School System, Nassau County, New York.



WALTER R. MILES

A portrait of **Walter R. Miles** was presented to Yale University on May 29, 1953, by his colleagues and former associates in this country and abroad. The ceremony was arranged by Neal E. Miller and others upon the occasion of Professor Miles's retirement from active service in the university, which took place on July 1, 1953.

Leah Gold Fein and other members of the research team headed by Doris Twitchell Allen attended the Children's International Summer Village in Lillsval, Sweden, from August 9 to September 9. As an experiment in international understanding, the team studied the individual and group behavior of about 60 children and 20 adults from about 15 countries.

Helen Ammons, formerly of Winter VA Hospital, Topeka, Kansas, has accepted a position as chief psychologist in the Milwaukee County Guidance Clinic.

Bernard Saper, formerly chief psychologist at the Austin State Hospital, has been appointed assistant professor of psychology and chief counselor of the Veterans Counseling Center at Northwestern University.

Stanley Ostrom, formerly coordinator of Child Welfare Services of the Long Beach, California, Public Schools, has been appointed director of test development at the California Test Bureau.

Emanuel F. Hammer, formerly clinical psychologist on the Research Project, New York Psychiatric Institute, has been appointed senior research scientist (psychiatry) on the Project. Other participating psychologists are Zygmunt A. Piotrowski, Rose Palm, and Irving Jacks.

Laurence E. Saddler, formerly of the St. Cloud, Minnesota State Teachers College, has joined the staff of William, Lynde & Williams.

Michael Erdelyi, professor of psychology at Mary Washington College, University of Virginia, has received a Fulbright lectureship in industrial psychology for the academic year 1953–54 at the Universities of Vienna and Graz, Austria.

George M. Haslerud is on sabbatical leave from the University of New Hampshire for the academic year 1953–54. He has received a Fulbright award to lecture at the University of Kyoto in Japan on the development and testing of behavioristic systems in the United States.

John H. Cornehlsen, formerly with the Department of Defense, has been appointed professor of psychology and director of the Institute for Applied Experimental Psychology, Tufts College. He has also joined the staff of Richardson, Bellows, and Henry as a consultant in the Boston and New York areas.

James G. Cooper, formerly of the Modoc County, California, Office of Education, has been appointed educational statistician, Los Angeles County Division of Guidance and Research.

Wm. B. Macomber, formerly clinical psychologist, Section of Mental Health, Alaska Department of Health, Anchorage, has been appointed senior clinical psychologist in the Mental Hygiene Clinic of Asheville and Buncombe County, Asheville, North Carolina.

Ernest Belden has joined the staff of the Napa State Hospital, Napa, California, as a senior clinical psychologist.

Eugene Morris, formerly assistant professor of psychology and psychologist at the Character Research Center, Union College, has been appointed assistant professor of guidance at Springfield College, Springfield, Massachusetts, to begin in September, 1953.

Francis L. Sonday has been appointed assistant professor in the department of otolaryngology and director of the Clinics for Audiological and Speech Services at the Indiana University Medical Center, Indianapolis, Indiana.

Peter J. Hampton, formerly assistant professor of psychology at Western Reserve University, has been appointed professor of psychology and chairman of the department of psychology at Muskingum College, New Concord, Ohio. He will continue his private practice as a consulting psychologist in the Cleveland area.

Herman D. Arbitman, psychologist at The Training School at Vineland, New Jersey, has been appointed executive director and supervisor of classes for The Council for the Retarded Child in Cuyahoga County, Cleveland, Ohio, to become effective October 1, 1953.

John R. Taylor has transferred from the Iowa State Division of Child Welfare, Des Moines, to the Iowa State Services for Crippled Children, Iowa City.

Winifred S. Graves, formerly clinical psychologist at the Wabash Valley Sanitarium, Lafayette, Indiana, has been appointed clinical psychologist at the Columbus State School, Columbus, Ohio.

Lloyd N. Yepsen, director of the Division of Mental Deficiency of the State of New Jersey Department of Institutions and Agencies, has been elected an honorary member of the Medical Society of New Jersey. The Society presented to Dr. Yepsen a citation "in recognition of his appreciation of the ideals and purposes of the medical profession and his signal contribution to the welfare of the people of New Jersey through his constructive efforts in behalf of the mentally retarded children" of New Jersey.

Joseph G. Dawson has resigned as associate professor and coordinator of clinical training in the department of psychology at the University of North Carolina, and has been appointed chief clinical psychologist at Southeast Louisiana Hospital in Mandeville, Louisiana. The hospital, only recently completed, is designed for intensive treatment and research in mental illness and is affiliated with Louisiana State and Tulane Universities for training.

David E. Hunt has been appointed an instructor in the department of psychology at Yale University.

Monroe L. Levin, senior psychologist of the Kentucky State Department of Health, has been stationed at the Warren County Health Building, Bowling Green, Kentucky, by the Department's Division of Mental Health. He is to organize a local clinical service to supplement the mental health program in southwestern Kentucky.

Sherman Ross, associate professor of psychology at the University of Maryland, has been elected a scientific associate of the R. B. Jackson Memorial Laboratory, Bar Harbor, Maine, by the Board of Scientific Directors on the recommendation of the staff of the Laboratory.

T. R. McConnell, chancellor of the University of Buffalo, has been elected chairman of the Board of Trustees of Educational Testing Service for a one-year term. Dr. McConnell succeeds Katharine E. McBride, president of Bryn Mawr College, as Board chairman.

Wallace Gobetz has been named director of the New York University Testing and Advisement Center. He will also be associated with the Division of General Education as adjunct assistant professor of psychology.

A. D. Zbranek has been appointed clinical psychologist and administrative officer of the Wyandotte County Guidance Center, Inc., Kansas City, Kansas.

Richard Thomas Brooke, formerly with Richardson, Bellows, Henry and Company, Inc., New York, has accepted a position as group director in the product planning division of Nowland and Schladermundt, industrial designers, New York, New York.

James F. Carey, Jr. is now employment supervisor with Pacific Greyhound Lines in San Francisco, California.

Russell W. Colgin and Joan K. Lasko have joined the staff of the Los Angeles Psychological Service Center.

David D. Eitzen of the School of Religion of the University of Southern California and Paul E. Johnson of the Boston University School of Theology will exchange teaching duties for the first semester of the coming academic year.

William R. Perl, chief clinical psychologist at the U. S. Disciplinary Barracks at Fort Leavenworth, was a guest speaker at the 1953 annual convention of the Midcontinental Psychiatric Association. He presented a paper on the psychodiagnostic value of handwriting analysis.

J. E. Wenrick of Bowling Green State University was visiting professor of psychology for the second term of the summer session at the University of Arkansas.

David S. Shapiro has been appointed clinical psychologist at the Tompkins County Mental Health Clinic, Ithaca, New York.

Walter F. Grether, chief of the Psychology Branch, Aero Medical Laboratory, Wright Air Development Center, Dayton, Ohio, has been awarded the Longacre Award for 1953 by the Aero Medical Association. The presentation was made in Los Angeles on May 13, 1953 at the annual meeting of the association. This award is for outstanding contributions to aviation in the fields of psychology or psychiatry and was presented to Dr. Grether for his research on design of aircraft instrument presentations.

At the annual convention of the Region II National Rehabilitation Association, held at Atlantic City, New Jersey, in May, 1953, Sol L. Warren was elected president of the organization for the ensuing year.

At the University of Chicago, William E. Henry, associate professor of psychology and human development, has been appointed chairman of the committee on human development. He succeeds Robert J. Havighurst, who has taken leave of absence from the University of Chicago to accept a Fulbright appointment at the University of New Zealand to lecture on general education in American colleges and to conduct a seminar on social structure and education. Upon his return to Chicago in 1954, Dr. Havighurst will resume his teaching duties as professor of education and human development.

S. Norman Feingold, executive director of the Jewish Vocational Service of Greater Boston and president of the Greater Boston Vocational Guidance Association, has accepted membership on the President's Committee on Employment of the Physically Handicapped.

Clyde E. Noble, of the Perceptual and Motor Skills Research Laboratory, Human Resources Research Center, has been appointed assistant professor of experimental psychology at Louisiana State University.

Beatrice E. Titcomb has accepted an appointment as a senior vocational counselor for the City of Chicago Department of Welfare.

William H. Brown, of the department of psychiatry, University of Utah College of Medicine, was co-author of the comment entitled "The Missoula Institute," which appeared in the June issue of this journal (*Amer. Psychologist*, 1953, 8, 247–249). Through an error which occurred in the editorial office, Ija N. Korner was listed as sole author.

The Pennsylvania State College has announced the establishment of a loan fund in honor of Bruce V. Moore, who retired in October, 1952, as head of the department of psychology. The Bruce Victor Moore Loan Fund will be available to graduate and undergraduate psychology students.

A memorial fund is being established in memory of Kenneth W. Braly. The fund will be used for some scholarly purpose to be decided by the committee, Stanley L. Singer, J. P. Guilford, and Wm. J. McNelis. Contributions to the fund should be made out to the Kenneth W. Braly Memorial Fund, and mailed to Stanley L. Singer, Advisement Service, 124 Loma Drive, Los Angeles 26, California. The Committee invites suggestions about the nature of the planned memorial.

Virginia Hathaway, chief psychologist in the Minneapolis public school system, has been appointed a member of the Minnesota State Board of Examiners of Psychologists. She succeeds Daniel

N. Weiner, clinical psychologist at the VA mental hygiene outpatient clinic, Fort Snelling, Minnesota.

Donald Brieland, assistant professor in the Institute of Child Welfare at the University of Minnesota, has received a Fulbright lectureship in psychology at the University of Peshawar, West Pakistan, for the academic year 1953–54.

Herman F. Brandt has been appointed director of the Institute of Visual Research, a division of the C. H. Stoelting Company, Chicago, Illinois.

VA DEPARTMENT OF MEDICINE AND SURGERY CLINICAL PSYCHOLOGY PROGRAM ANNOUNCEMENTS

New Appointments

Benton E. Barringer has been appointed to the staff of VA Hospital, Canandaigua, New York.

Frank S. Boring, a graduate of the VA Training Program, Harvard University, has been appointed to the staff of VA Regional Office, Newark, New Jersey.

Glen A. Brackbill of the University of Colorado faculty has accepted appointment at VA Hospital, Palo Alto, California.

Earl C. Brown, a graduate of the VA Training Program, Purdue University, has been appointed to the staff of VA Center, Wadsworth, Kansas.

Bernard Chodorkoff, a graduate of the VA Training Program, University of Wisconsin, has been appointed to the staff of VA Hospital, Dearborn, Michigan.

Ralph W. Colvin, a graduate of the VA Training Program, Duke University, has been appointed to the staff of VA Hospital, Montrose, New York.

Edward T. Davis, a graduate of the VA Training Program, Harvard University, has been appointed to the staff of VA Hospital, Bedford, Massachusetts.

Robert B. Ellsworth, a graduate of the VA Training Program, Pennsylvania State College, has been appointed to the staff of VA Hospital, Salt Lake City, Utah.

Wilbert E. Fordyce, a graduate of the VA Training Program, University of Washington, has been appointed to the staff of VA Regional Office, St. Paul, Minnesota.

Earl X. Freed, a graduate of the VA Training Program, University of Buffalo, has been appointed to the staff of VA Hospital, Albany, New York.

Warren K. Garlington, a graduate of the VA Training Program, University of Indiana, has been appointed to the staff of VA Hospital, Sheridan, Wyoming.

Mildred E. Gebhard, a graduate of the VA Training Program, University of Pennsylvania, has been appointed to the staff of VA Hospital, Perry Point, Maryland.

William N. Hirschman, a graduate of the VA Training Program, Teachers College, Columbia University, has been appointed to the staff of VA Hospital, Lyons, New Jersey.

Elizabeth Z. Johnson has been appointed to the staff of VA Hospital, Lexington, Kentucky.

Joseph Lyons has been appointed as Chief Clinical Psychologist, VA Hospital, Indianapolis, Indiana.

James E. Mabry, a graduate of the VA Training Program, University of Illinois, has been appointed to the staff of VA Hospital, Salt Lake City, Utah.

John B. Marks, a graduate of the VA Training Program, University of California, has been appointed to the staff of VA Hospital, American Lake, Washington.

Boyd Sisson, a graduate of the VA Training Program, University of Nebraska, has been appointed to the staff of VA Hospital, Omaha, Nebraska.

Donald W. Sydow, a graduate of the VA Training Program, University of Minnesota, has been appointed to the staff of VA Hospital, Ft. Meade, South Dakota.

Shalom E. Vineberg, a graduate of the VA Training Program, UCLA, has been appointed to the staff of VA Hospital, San Fernando, California.

J. Frank Whiting, a graduate of the VA Training Program, University of Pennsylvania, has been appointed to the staff of VA Center, Martinsburg, West Virginia.

Transfers

Aaron H. Canter has transferred from VA Regional Office, Phoenix, to the position of Chief Clinical Psychologist, VA Hospital, Phoenix, Arizona.

Howard Friedman has transferred from VA Hospital, Boston, Massachusetts, to the position of Chief Clinical Psychologist, VA Hospital, Syracuse, New York.

F. Harold Giedt has transferred from VA Re-

gional Office, San Francisco, California to VA Hospital, Perry Point, Maryland.

Lee Gurel has transferred from VA Center, Martinsburg, West Virginia to VA Hospital, Ft. Lyon, Colorado.

Erasmus L. Hoch has transferred from VA Hospital, Lyons, New Jersey to VA Hospital, East Orange, New Jersey.

Jacob Levine has transferred from VA Hospital, Newington, Connecticut to the position of Chief Clinical Psychologist, VA Hospital, West Haven, Connecticut.

Julian Meltzoff has transferred from VA Regional Office, Philadelphia, to the position of Chief Clinical Psychologist, VA Hospital, Philadelphia, Pennsylvania.

Paul D. Park has transferred from VA Regional Office, New York, to the position of Chief Clinical Psychologist, VA Hospital, Newington, Connecticut.

John N. Rakusin has transferred from VA Hospital, Perry Point, Maryland to VA Hospital, West Haven, Connecticut.

Richard W. Thomas has transferred from VA Regional Office, Louisville, Kentucky to VA Hospital, Marion, Indiana.

John G. Watkins has transferred from VA Regional Office, Chicago, Illinois to the position of Chief Clinical Psychologist, VA Hospital, Portland, Oregon.

Resignations

Melvin E. Allerhand has resigned from the staff at VA Hospital, Tomah, Wisconsin.

John F. Conger has resigned from the staff at VA Hospital, Indianapolis, Indiana to accept an appointment at University of Colorado Medical School.

Ludwig Immergluck has resigned from the staff at VA Hospital, Palo Alto, California to accept a faculty appointment at San Francisco State College.

George S. Welsh has resigned from the staff at VA Hospital, Oakland, California to accept a faculty appointment at University of North Carolina where he will serve as coordinator of clinical training.

Other

Ralph W. Heine has been designated Chief Clinical Psychologist, VA Regional Office, Chicago, Illinois.

James F. Lawrence is returning to the VA as Chief Clinical Psychologist, VA Hospital, Brockton, Massachusetts after a tour of duty with the Army as Chief Clinical Psychologist at Walter Reed and later at Letterman.

Herman R. Weiss is returning to the VA as Chief Clinical Psychologist, VA Hospital, Brooklyn, New York after a tour of duty with the Air Force as Chief Clinical Psychologist, Westover Field.

Special research unit

A special Psychiatry and Neurology Research Unit has been established in the Washington, D. C., Regional Office for the purpose of developing methods for evaluation of therapies used in mental hygiene clinics and the determination of patient-types most responsive to particular forms of therapy. Chief of the new unit is **Maurice Lorr,** formerly of the central office staff. Scales for measuring the status and improvement of hospitalized patients, developed primarily by Dr. Lorr, have been an essential part of the VA lobotomy research project. Similar scales, particularly designed for out-patient use, are already well along in their development and will play an important role in the early research plans of the new unit.

The **Personnel Laboratory of New York** has announced the addition of Israel H. Rosenberg and Shirley Van Court to its New York staff of clinical psychologists. Eileen Ort has been transferred from New York to the Toronto office of the Laboratory.

The **Washington University School of Medicine,** St. Louis, has announced the following new appointments in medical psychology in the department of neuropsychiatry: John A. Stern and Mary L. Sutton; Fred L. Damarin, Earl D. Longenecker, and Jeanne S. Phillips, fellows. Other staff members are Goldine C. Gleser, Frances K. Graham, Evelyn P. Mason, Joseph D. Matarazzo, and Ivan N. Mensh.

For 1953–54, the staff of the department of psychology at **Swarthmore College** consists of Wolfgang Köhler, S. E. Asch, Hans Wallach, Henry Gleitman (on leave), Peter Madison, A. I. Gladstone, Ulric Neisser, and W. C. H. Prentice, chairman.

The department of psychology, **Kansas State College**, is expanding its offerings in the field of experimental and applied social psychology. Hobson Crockett has been appointed to the staff to develop the new program with emphasis upon survey research and group functioning. Dr. Crockett has been assistant project director at the Survey Research Center, University of Michigan. Other department members who are active in this field are Roy Langford (general education), Donald Showalter (marketing), and Arthur Brayfield (industrial).

Alvin J. North, chairman of the department of psychology at **Southern Methodist University**, has been granted a leave of absence for 1953–54 to accept a Ford Foundation Fellowship. J. R. Strange, recently promoted to associate professor, will be acting chairman. Harold Crasilneck has been appointed lecturer in psychology for the fall semester of 1953.

The department of psychology, **Cornell University**, announces the following staff changes: Robert B. MacLeod is resigning as chairman of the department and will be succeeded by T. A. Ryan. William W. Lambert and Patricia Cain Smith have been promoted from assistant professor to associate professor. George W. Boguslavsky and Richard Walk have been appointed assistant professors. During the fall term of 1953–54, Henry Gleitman of Swarthmore College will be acting associate professor; Robert B. MacLeod will be visiting professor at the University of Michigan.

Workshops in Psychotherapy. From June 7 to 14 the New York Institute for Gestalt Therapy conducted a series of intensive workshops in the theory, techniques, psychosomatic implications, and psychodiagnostic relationships to Gestalt therapy. Included on the faculty were Frederic Perls, director; Laura Perls, Paul Weisz, Paul Goodman, Eliot Shapiro, and Leo Chalfen. The Institute will give its regular sequence of courses this fall, beginning in early October. An intensive workshop is scheduled for December, in Miami, Florida. Address inquiries to New York Institute for Gestalt Therapy, 315 Central Park West, New York 25, N. Y.

The Personnel Research Section, Personnel Research and Procedures Branch, The Adjutant General's Office, Department of the Army, has been reorganized and is now identified as the Personnel Research Branch, Personnel Research and Procedures Division. Key personnel are Carroll B. Hodges, branch chief; Russell W. Miller, executive officer; Hubert E. Brogden, director of research; Julius E. Uhlaner, assistant director of research (research manager); Stanley C. Markey, Arthur C. Hoffman, Jr., and Abram G. Bayroff, staff assistants. Contract Research Section: Arthur J. Drucker, chief; Performance Research Section: Richard H. Gaylord, chief, Rudolph G. Berkhouse, Daryl G. Severin, and David J. Chesler; Selection Research Section: Edmund F. Fuchs, chief, E. Kenneth Karcher, Jr., Melvin R. Marks, and Lindsey R. Harmon; Statistical Research and Analysis Section: Harry H. Harman, chief, Bertha P. Harper, assistant chief, and Robert Perloff.

The staff of the psychology department of **LaRue D. Carter Memorial Hospital**, Indianapolis, Indiana, consists of the following: Arnold H. Buss, chief psychologist, formerly of the State University of Iowa; Marc Baer, formerly of Austin State Hospital, Ann Durkee, formerly of Pontiac State Hospital, Morton Wiener, formerly of the University of Rochester, staff psychologists; and Rena Dean, Purdue University, psychological intern.

The **Los Angeles City Schools** have just established the new office of Counseling and Guidance Service Branch. David H. Dingilian has been appointed director.

The **State Board of Public Welfare at Raleigh, North Carolina**, has announced the addition of Stanley S. Nale to its staff of the Division of Psychiatric and Psychological Services, of which Dorothy G. Park is the acting director. Mr. Nale comes from the staff of Polk School for Mental Defectives. Helton McAndrew and Marion Stanland are also on the staff.

The general partners of **Rohrer, Hibler & Replogle** have announced the election of 12 new partners: Ottis K. McMahon, Atlanta; C. W. Cannom, Mack T. Henderson, Ray S. Miller, and Ellwood W. Senderling, Chicago; Paul J. Brouwer, Cleveland; Raymond H. Fletcher, Dallas; Charles V. Dunham, Detroit; Harry L. Coderre and William A. Thomson, Los Angeles; Kenneth W.

Vaughn, Milwaukee; and A. Merlin Sones, New York.

Daniel Starch and Staff, marketing research firm, has moved its offices from New York City to suburban Mamaroneck, New York. The firm includes three psychologists, Howard D. Hadley, Morgan Neu, and Daniel Starch.

Hall and Liles, industrial psychologists, formerly of Chicago, Illinois have announced the removal of their offices to Rochester, New York.

Rohrer, Hibler & Replogle have announced the appointment of Richard L. Newton, formerly of the University of Pittsburgh, to the staff of their Cleveland office.

A booklet entitled **"U. S. Government Grants under the Fulbright Act"** has recently been published. It contains information regarding awards for university lecturing and advanced research awards for 1954–55 in Europe, the Near East, Japan, and Pakistan. The closing date for making application is October 15, 1953. Copies of the booklet and application forms are obtainable only upon individual request to the Committee on International Exchange of Persons, Conference Board of Associated Research Councils, 2101 Constitution Avenue, Washington 25, D. C.

The U. S. Public Health Service has awarded a two-year grant to the Department of Psychiatry and Rehabilitation at **Memorial Center for Cancer and Allied Diseases,** New York City. The grant will support a research project to evaluate the psychological impact of cancer and its treatment. The research staff consists of Arthur M. Sutherland, director; Charles E. Orbach, research clinical psychologist; Morton Bard, associate research clinical psychologist; and Ruth B. Dyk, psychiatric social worker.

The Training School at Vineland, New Jersey, has received a research grant of approximately $20,000 from the National Institute of Mental Health. The Training School project, which is concerned with patterns and stages of intellectual growth, was set up by Karl F. Heiser, coordinator of research, and Margaret M. Riggs, who will give major supervision to the project during the next two years.

The following resolution concerning academic freedom was adopted by the membership of the Eastern Psychological Association at the annual Business Meeting of the Association held in Boston, April 24, 1953:

Free inquiry and discussion—the free enterprise system of the mind—has made American science strong. The freedom of scientific thought and expression which we have enjoyed at these meetings has enabled American psychology to make important contributions to the nation's welfare, both in war and peace. We view with concern any attempt to limit these freedoms.

A spirit of suspicion spread by official investigators and their less responsible imitators is threatening the freedom of thought that has brought American psychology to a position of world leadership. Some of our most outstanding and honorable members have been exposed to wild and unjustified accusations without a fair chance to defend themselves.

We strongly condemn political control of science and education as we have seen it develop in Communist and Fascist states. We have grave fears lest current developments bring a similar fate to science and education in America.

We believe these developments result in part from a lack of public understanding of the conditions under which research and education can grow and contribute to the National Welfare. These conditions have been described succinctly by the Association of American Universities in the following statement:

"To fulfill their function the members of university faculties must continue to analyze, test, criticize, and reassess existing institutions, and beliefs, approving when the evidence supports them and disapproving when the weight of evidence is on the other side. Such investigations cannot be confined to the physical world. The acknowledged fact that moral, social, and political progress have not kept pace with mastery of the physical world shows the need for more intensified research, fresh insights, vigorous criticism, and inventiveness. The scholar's mission requires the study and examination of unpopular ideas, of ideas considered abhorrent and even dangerous. For, just as in the case of deadly disease or the military potential of an enemy, it is only by intense study and research that the nature and extent of the danger can be understood and defenses against it perfected.

"Timidity must not lead the scholar to stand silent when he ought to speak, particularly in the field of his competence. In matters of conscience and when he has truth to proclaim the scholar has no obligation to be silent in the face of popular disapproval. Some of the great passages in the history of truth have involved the open challenge of popular prejudice in times of tension such as those in which we live."

The Eastern Psychological Association wishes to call to the attention of our federal and state legislatures its concern for the effect of the current wave of accusations and insinuations upon the vitality of the country's scientific and educational resources. We urge these bodies as well as our

university colleagues to join us in our efforts to strengthen the freedom of inquiry and expression which is basic to the protection of these resources and, consequently, to our national security. In short, we reaffirm our Faith in the democratic principles of freedom WHICH HAVE MADE OUR NATION STRONG.

The 1953–54 slate of officers of the **New York Society of Clinical Psychologists, Inc.**, is: Max Siegel, president; Emanuel K. Schwartz, president-elect; Samuel Pearlman, executive secretary; and Jack Z. Elias, treasurer. In addition to these officers, the members of the Society's Executive Committee are Sylvia Brecher, Albert Ellis, Florence Halpern, Molly Harrower, Ida Linnick, Jule Nydes, Estelle Shugerman, Arthur Teicher, Thomas E. Tierney, and Brian Tomlinson. Esther Mullen is recording secretary.

The Harris County (Houston, Texas) Psychological Association has announced the election of the following officers for 1953–54: Sidney E. Cleveland, president, and John F. MacNaughton, secretary-treasurer.

The Nebraska Psychological Association held its second annual meeting on the campus of the University of Nebraska in Lincoln on May 16, 1953, under the presidency of Don W. Dysinger. By-laws were formally adopted. This action, following the adoption of a constitution at the 1952 meeting, completes the formal organization of the Association. The Executive Council for the coming year consists of Dean A. Worcester, president; Don C. Fitzgerald, president-elect; R. J. Ellingson, secretary-treasurer; Marshall R. Jones, delegate to Conference of State Psychological Associations; William H. Thompson; and Stanley Moldawsky.

The Milwaukee County Psychological Association has recently been formed. Minimum standards for membership are a master's degree in psychology, two years of experience in professional work that is psychological in nature, approval and acceptance of the ethical standards provided by the American Psychological Association, and membership in the American Psychological Association and in the Wisconsin Psychological Association. Officers of the Association are: Samuel H. Friedman, president; Wilbur J. Humber, vice-president and president-elect; Paul H. Whiteman, executive secretary; Dorothy Rowe, treasurer; and Catherine E. Brophy, recording and corresponding secretary. Individuals who wish further information regarding the Association should write to the Executive Secretary, 623 West State Street, Milwaukee 3, Wisconsin.

The Nassau County Psychological Association has announced the election of the following new officers: Martin Singer, president-elect; Julia Vane, recording secretary; Loron Simon, treasurer; and Beverly Wiener, corresponding secretary. Matthew Chappell has assumed the presidency, a post to which he was elected last year.

The Vermont Psychological Association, at its annual meeting held at Montpelier on May 9, 1953, elected the following officers for the coming year: H. L. Ansbacher, president; Norman J. Blair, vice-president; Bennett B. Murdock, Jr., secretary-treasurer. The representative to the Conference of State Psychological Associations will be H. L. Ansbacher.

The American Psychosomatic Society will hold its eleventh annual meeting at the Jung Hotel in New Orleans on March 27 and 28, 1954. The Program Committee would like to receive titles and abstracts of papers for consideration for the program by December 1, 1953. Submit abstracts in quadruplicate to the Chairman of the Program Committee, Dr. George L. Engel, 551 Madison Avenue, New York 22, New York.

ABEPP Announcements

The American Board of Examiners in Professional Psychology under date of March 31 addressed a questionnaire to members of the following Divisions of the American Psychological Association: Division of Clinical and Abnormal Psychology, Division of Consulting Psychology, Division of Industrial and Business Psychology, and Division of Counseling and Guidance Psychologists. In making plans for the future, the Board sought an estimate of the number of candidacies to be processed and the number of candidates to be examined in its written and oral examinations during the next few years. The Board was highly pleased with the large number of replies which were received from members of the profession.

This announcement is made to express appreciation to the many psychologists who so kindly responded by returning the completed questionnaire.

The Board invited a frank statement concerning interest in or lack of interest in qualifying at some future time for diplomate status. Again, the Board was pleased with the generous response made to this invitation.

In the November 1953 issue of the *American Psychologist*, in its annual report to the American Psychological Association, the American Board of Examiners in Professional Psychology will include a report on the valuable information resulting from this questionnaire.

The American Board of Examiners in Professional Psychology announces the award of its diploma to additional members of the profession. Awards have been made to the following 13 candidates who have satisfactorily completed both written and oral examinations in addition to all other requirements of training, experience, and endorsements:

Mary K. Bauman	Counseling and Guidance
Joseph E. Brewer	Clinical Psychology
Aaron H. Canter	Clinical Psychology
John M. Hadley	Clinical Psychology
Ralph W. Heine	Clinical Psychology
Albert L. Hunsicker	Clinical Psychology
Goldie R. Kaback	Counseling and Guidance
Jane W. Kessler	Clinical Psychology
William S. Kogan	Clinical Psychology
Morse P. Manson	Counseling and Guidance
Morris I. Stein	Clinical Psychology
Albert S. Thompson	Counseling and Guidance
Meyer Williams	Clinical Psychology

In addition to the above awards made on the basis of successful completion of written and oral examinations, the American Board of Examiners in Professional Psychology announces the award of its diploma to 10 senior members of the profession in the indicated professional specialties. These 10 awards were made on the basis of a review of individual qualifications and without written and oral examinations:

Junius F. Brown	Clinical Psychology
R. Elizabeth Brown	Counseling and Guidance
Francis P. Buller	Counseling and Guidance
C. Wesley Cannom	Counseling and Guidance
*Kenneth J. Cox	Counseling and Guidance
Martin F. Fritz	Counseling and Guidance
Nelson G. Hanawalt	Clinical Psychology
James D. Haygood	Counseling and Guidance
*David Stewart	Counseling and Guidance
*Douglas J. Wilson	Counseling and Guidance

* Members of the Canadian Psychological Association.

According to continuing Board policy, all previous awards have been announced in the *American Psychologist*.

To date, the Board has made a total of 1,128 awards of its diploma. These awards are distributed as follows:

Diploma awarded to senior members of the American Psychological Association with waiver of written and oral examinations	1,057
Diploma awarded to members of the American Psychological Association by satisfactory performance on written and oral examinations	54
Diploma awarded to senior members of the Canadian Psychological Association with waiver of written and oral examinations	17
Total	1,128

Psychologists in Belgium, France, Switzerland, Germany, Denmark, Holland, and Italy who use French in their work have formed the **Association de Psychologie Scientifique de Langue Francaise.** Albert E. Michotte is president and P. Fraisse is secretary general. For further information about the Association, write to P. Fraisse, Institut de Psychologie, 46, rue Saint-Jacques, Paris 5°, France.

Columbia University has established a program of graduate studies in social psychology leading to the PhD degree. Members of the departments of psychology, sociology, education, and anthropology are cooperating in offering the interdisciplinary curriculum. The administrative committee consists of Otto Klineberg and Goodwin B. Watson, co-chairmen; Conrad M. Arensberg, Hubert Bonner, Kenneth F. Herrold, Herbert H. Hyman, Paul F. Lazarsfeld, Irving Lorge, and S. Stansfeld Sargent. For further information write the Director of Admissions, Columbia University, or to Professor S. S. Sargent, Barnard College, Columbia University, New York 27, New York.

The department of psychology, **Army Medical Service Graduate School,** Washington, D. C., has been organized and staffed to carry out a research function in four major areas of psychology. Joseph V. Brady is acting chief of the department. Other staff members are: Murray Sidman and John B. Calhoun in the animal experimental section; John Armington in the human physiological section; Seymour Fisher in the clinical psychology section; and Edgar Schein, Ardie Lubin, and Solomon Gold-

berg in the social psychology section. Ardie Lubin also serves as statistical consultant to the Department.

The University of Illinois has instituted a four-year doctoral training program for public school psychologists which includes a year of professional internship under practical work conditions and leads to the PhD in education or in psychology or to the EdD. The program is presented jointly by the College of Education and department of psychology and operates under a joint committee consisting of F. H. Finch, L. A. Hellmer, J. McV. Hunt, and T. E. Newland, chairman.

The department of educational psychology in the College of Education of **Wayne University** will inaugurate in the fall semester 1953 its doctoral programs leading to the PhD or the EdD degree. The department, under the chairmanship of Gertha Williams, consists of George D. Barahal, Hazel E. Graham, Jacob S. Kounin, Harold F. Powell, Marie I. Rasey, John C. Sullivan, and William W. Wattenberg, as regular full-time staff members. In addition special courses will be given by cooperating and part-time staff members. Several fellowships are available for selected students holding the master's degree. The fellowships carry a stipend of $1,681.00 plus tuition for approximately 20 hours of service closely related to the student's field of study. For information concerning details of the programs, write to Dr. Gertha Williams, College of Education, Wayne University, Detroit 1, Michigan.

The department of psychology and the Division of Biological Sciences of the **University of Chicago** have announced the establishment of a Section of Biopsychology which will supervise a graduate training program for the PhD degree in the general area of a biologically oriented psychology. Formal instruction in the area of biopsychology will be begun in the autumn quarter of 1953. Responsibility for instruction will be shared by Ward C. Halstead, Eckhard H. Hess, Howard F. Hunt, Heinrich Klüver, W. D. Neff, Austin H. Riesen, and Garth J. Thomas, with Professor Halstead serving as chairman of the group. Students desiring to enter the program may obtain more detailed information through written application and personal interview with Professor Ward C. Halstead, Chairman of Biopsychology, University of Chicago, Chicago 37, Illinois.

The State College of Washington has announced the resumption of its doctoral training program in clinical psychology. New appointments are: William A. Cass, formerly of the University of Kansas, assistant professor psychology and director of the Student Counseling Center; Leonard I. Schneider, formerly of the University of Colorado, assistant professor of psychology; and Paul J. Hoffman, formerly of Stanford University, instructor in charge of introductory and social psychology. During the summer session, Wayne Dennis, Brooklyn College, and Douglas T. Kenny, University of British Columbia, were visiting faculty members at the State College of Washington.

The Baroda University in India has opened a department of psychology which will offer training at the undergraduate, graduate, and postgraduate levels. The department wishes to procure issues of all APA journals of the last ten years. Members who wish to donate copies may send them to the American Psychological Association, 1333 Sixteenth Street N. W., Washington 6, D. C., to be forwarded to India.

The Montana State Hospital and the department of psychology of the Montana State University jointly sponsored **a two-week training conference** July 20–31, 1953 at the State Hospital. The conference was conducted by Frederick Wyatt, director of the Psychological Clinic, University of Michigan, and was devoted to general discussion and case studies from both diagnostic and therapeutic standpoints.

The First Annual **Postgraduate Seminar in Psychiatry** will be held at Embreeville State Hospital, Embreeville, on October 27, 1953. The theme of the seminar will be "Whither Psychiatry." For further information write to Dr. Jess V. Cohn, Superintendent, Embreeville State Hospital, Embreeville, Pennsylvania.

The Student Counseling Bureau of the **University of Minnesota** is sponsoring the fourth Annual Conference for Administrators of University and College Counseling Programs in Minneapolis from November 19 through November 21. The meeting is for those who hold primary responsibilities for counseling programs and will cover problems per-

taining to counseling personnel, research in counseling, and budgetary problems. Information can be obtained from Dr. Ralph Berdie, Director, Student Counseling Bureau, University of Minnesota, Minneapolis 14, Minnesota.

Aram Glorig, director of the Audiology and Speech Correction Center, Walter Reed Army Hospital, has announced that a **Workshop on the Retraining and Rehabilitation of the Aphasic Patient** will be held on September 24 and 25, 1953, in Conference Room No. 1, Walter Reed Army Hospital, Washington, D. C. Consultants will be Jon Eisenson, Joseph M. Wepman, and staff members. Topics include neurological and physiological aspects, language and communication, psychological and social effects, physical and occupational therapy, and examining techniques. Persons interested in attending the session are invited to write to Dr. Reuben S. Horlick, chief clinical psychologist, Audiology and Speech Correction Center, WRAMC, Washington 12, D. C.

The department of psychology of the **University of Houston** offered the first college-credit psychology course to be given over Station KUHT-TV, the nation's first educational television station, from June 9 through August 29. Credit for the course was obtained by viewing the lectures and either attending discussion groups on the campus or through correspondence, doing the problems in the special textbook prepared by Richard I. Evans, associate professor of psychology, the course instructor. The course will be repeated in the fall.

The third annual **Workshop in the Psychology of Leadership**, sponsored by the University of Houston department of psychology and directed by Richard I. Evans, was held from July 20 through August 7. The workshop dealt with problems in group process and the leadership role.

Appointment of the first **Board of Examiners in Psychology for the State of Tennessee** was announced on July 20, 1953 by Governor Frank Clement. Members of the Board are W. J. von Lackum, Louise Cureton, Leland E. Thune, George E. Copple, and Nicholas Hobbs. The Board assembled for its first meeting on July 28 and members were presented with their commissions and given the oath of office by Governor Clement in the Governor's office at the State Capitol. At the meeting W. J. von Lackum was elected chairman and Louise Cureton vice-chairman.

The Biennial Conference of the **National Association for Nursery Education** will be held in Minneapolis from October 28 to 31, 1953. The program will include sections on administration of the nursery school; parents; research; legislation and standards for nursery schools; television; cooperative nursery schools; nursery schools for exceptional children; nursery school in relation to later school experiences. For further information write to the Conference chairman, Dr. Elizabeth Fuller, Institute for Child Welfare, University of Minnesota, Minneapolis, Minnesota.

The Eighteenth Educational Conference, sponsored by the Educational Records Bureau and the American Council on Education, will be held on October 29 and 30, 1953 at the Roosevelt Hotel in New York City. The theme of the conference will be "Strengthening Education at All Levels." For further information write to Arthur E. Traxler, Educational Records Bureau, 21 Audubon Avenue, New York 32, New York.

Under the direction of Jerome H. Ely, a one-week **Human Engineering Institute** was recently held by Dunlap and Associates, Inc. This institute, the first of its kind offered to industry, was aimed specifically at design engineers, industrial designers, and members of related professions. The class meetings, laboratories, demonstrations, and round-table discussions covered the working environment, anthropometric data, perception and design of displays, motor behavior and design of controls, human performance in control systems, research methods, and systems analysis.

The Pennsylvania State College initiated, during the spring semester of 1953, a Distinguished Lecturer Series in Psychology, which is sponsored by the department of psychology and the Graduate School. Participants spent two days at the College, gave one formal lecture, and met with graduate and faculty groups to discuss relevant psychological topics. The lecturers during the 1953 spring semester were John C. Flanagan, Harry F. Harlow, and Kenneth W. Spence. Plans are being made to continue the series during the academic year of 1953–54.

A Psychology Club has been organized in the New York State Capital district. The first meeting was held on May 15, and the following members were elected to the steering committee: Ethel Cornell, Morris Eson, and Paul Fay. For further information write to Dr. Morris Eson, New York State College for Teachers, Albany, New York.

In September 1952 the **Research Exchange on the Prevention of War** was set up by a group of psychologists to provide means of communication among interested individuals. The group's major activity is the publication of a bulletin. It will attempt to communicate discussions about the methodological and theoretical problems in this area, discussions about criteria for the relevance of research to war prevention, research ideas and plans, research findings, and ideas and examples of ways of communicating research findings and encouraging their application. The group is inviting all social scientists to join. Subscription to the bulletin is $1.00 a year (five issues). For subscriptions, sample copies of the bulletin, and further information about the Research Exchange, write to Dr. Arthur I. Gladstone, Department of Psychology, Swarthmore College, Swarthmore, Pennsylvania.

The annual meeting of the **Society for Research in Child Development** was held at Fels Research Institute, Yellow Springs, Ohio on March 27 and 28. The following new officers were elected: H. V. Meredith, president, and Celia Burns Stendler, secretary. Members of the Governing Council will be: Icie Macy Hoobler, director; Carroll E. Palmer, medical director; Roger Barker, Nancy Bayley, Boyd McCandless, and Esther McGinnis.

The Division of Biological and Medical Sciences of the **National Science Foundation** sponsors basic research in the fields of experimental psychology, physiological psychology, and measurement theory. Proposals received are evaluated by an advisory panel composed of Doctors Quinn McNemar, Frank Beach, Donald Lindsley, Lyle Lanier, and Donald Marquis. The next meeting of the Panel will be held in late autumn 1953. Proposals to be considered at the autumn meeting must be received by the National Science Foundation prior to October 1, 1953. It is anticipated that proposals will be evaluated within two months after the closing date. A suggested guide for the submission of research proposals can be obtained by writing to The National Science Foundation, Washington 25, D. C.

Psychologists in private practice are now exempt from the New York State unincorporated business tax, according to a ruling made on March 9, 1953 by the State of New York Department of Taxation and Finance. The term "psychologist" in this ruling was used to mean a member of the American Psychological Association, inasmuch as the ruling was made in terms of the requirements for APA membership.

Address Changes. A new Post Office order (No. 55235, June 25, 1953) states that if forwarding postage for second-class mail (such as APA journals) has not been guaranteed by a subscriber who has changed his address, the mail will be destroyed unless the publisher guarantees return postage. Unless subscribers inform their post offices that they will guarantee forwarding postage, considerable delay and expense will be incurred in receiving journals. Please notify the Association promptly of any change in the address to which your journals should be mailed, and inform your local post office before you move that you will guarantee forwarding postage on second-class mail.

Applicants for Fellow status in the APA who wish consideration in September, 1954 are reminded that by October 1, 1953 they must have submitted one completed copy of the Uniform Fellow Application Blank to APA Central Office. These blanks are available from the Division Secretaries.

Convention Calendar

American Psychological Association: September 3–8, 1954; New York City

For information write to:
Dr. Fillmore H. Sanford
1333 Sixteenth Street N. W.
Washington 6, D. C.

Ohio Psychological Association: October 24, 1953; Columbus, Ohio

For information write to:
Miss Rosina M. Brown
Cleveland Board of Education
Cleveland 14, Ohio

American Occupational Therapy Association: November 13–20, 1953; Houston, Texas

For information write to:
Miss Marjorie Fish, Executive Director
American Occupational Therapy Association
33 West 42nd Street
New York 18, N. Y.

American Association for the Advancement of Science: December 26–31, 1953; Boston, Massachusetts

For information write to:
Dr. R. L. Taylor, Associate Administrative Secretary
1515 Massachusetts Avenue N. W.
Washington 5, D. C.

American Society of Human Genetics: December 26–31, 1953; Boston, Massachusetts

For information write to:
Shelden C. Reed
Dight Institute for Human Genetics
University of Minnesota
Minneapolis 14, Minnesota

American Group Psychotherapy Association: January 15–16, 1954; New York City

For information write to:
George Holland, Executive Secretary
American Group Psychotherapy Association
228 East 19th Street
New York 3, N. Y.

Ontario Psychological Association: January 29–30, 1954; Ottawa

For information write to:
E. T. Alderdice, Secretary-Treasurer
100 St. George Street
Toronto 5, Ontario
Canada

Eastern Psychological Association: April 9–10, 1954; New York City

For information write to:
Dr. G. Gorham Lane
Department of Psychology
University of Delaware
Newark, Delaware

Midwestern Psychological Association: April 29, 30, May 1, 1954; Columbus, Ohio

For information write to:
Dr. Lee J. Cronbach
Bureau of Research and Service
University of Illinois
1007½ South Wright Street
Champaign, Illinois

Western Psychological Association: May 20–22, 1954; Long Beach, California

For information write to:
Dr. Leona Tyler
Department of Psychology
University of Oregon
Eugene, Oregon

International Congress of Psychology: June 7–12, 1954; Montreal, Canada

For information write to:
Dr. H. S. Langfeld
Eno Hall
Princeton University
Princeton, New Jersey

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THE AMERICAN PSYCHOLOGIST

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LEGISLATION FOR PSYCHOLOGISTS

THIS issue of the *American Psychologist* is made up largely of a series of articles concerned with legislation for psychologists. The symposium was prepared in accordance with the request of the Council of Representatives, at its 1952 meeting, that the Advisory Committee on Legislative Matters study the many issues involved in legislative actions and develop a series of papers concerning legislative matters. The symposium is presented in the following pages. Supplementing the symposium is a collection of statements, solicited by the *American Psychologist,* concerning the status of legislative action in the various states.

In 1952 both the Board of Directors and Council of Representatives felt that it was desirable for APA to "take a stand" on legislative issues. Psychologists in some states had sought and brought into official effect either licensing or certification bills. In other states, psychologists had sought with equal energy but less success to have bills passed by state legislatures. In still other states the concern for legislative matters was either active but uninformed and amorphous, or nonexistent. And on the horizon were tentative moves on the part of people outside psychology to secure legislation affecting the practice of psychology. There was clear need for systematic thinking about legislation and its implications both for psychology and for society. There were those who urged with great vigor that the APA adopt a policy. Though the 1952 members of the Board of Directors were in general agreement concerning most legislative issues (see "The March Meeting of the Board of Directors," *Amer. Psychologist,* 1952, 7, 162–166), the Board had serious hesitancy about any attempt to impose its judgment on APA membership. It recommended instead that APA members be given full facilitation for full discussion of legislative issues. The Advisory Committee on Legislative Matters was asked to be the facilitating agency. Out of discussion, the hope was, wisdom would grow; then APA could articulate for its members whatever policies turned out to be widely perceived as good and desirable.

But history moved more rapidly than anybody anticipated. At its 1953 meeting, while copy for the present symposium was at the printer, the Council of Representatives unanimously adopted as APA policy a set of principles recommended by the *Ad Hoc* Committee on Relations between Psychology and Other Professions. This action had the effect of making the present symposium somewhat out of date before it appeared in public, for among the adopted principles are quiet but nonetheless firm statements concerning legislative matters. The principles and their implications can be found in the first article in the symposium, "Implications for Legislation in the Report of the *Ad Hoc* Committee on Relations between Psychology and Other Professions" which was prepared, at the request of the Advisory Committee, by the *Ad Hoc* Committee.

APA, then, does have a policy with respect to legislation. There is some reason to believe that psychologists in any state will now be in a better position to deal with legislative problems arising at local and state levels. And psychology's statement of principles should clarify our relations with other professions. But much work remains to be done at both state and national levels if psychologists are to handle well their accepted responsibilities. In the hope of facilitating and coordinating the next steps, the Board of Directors, with Council approval, appointed a new Advisory Committee on State Legislation, composed of two members of the Board of Directors (Nicholas Hobbs and E. Lowell Kelly) and the chairman of the Conference of State Psychological Associations (Charles N. Cofer). In collaboration with the CSPA Legislative Committee and with the assistance of "correspondents" in each state, this committee will soon issue a report on the current legislative situation.

In some aspects, then, the present symposium represents a historical background for events that outstripped the pedestrian process of publication; in many others, it deals with problems still unsolved. It still appears to be a useful collection of papers.

At the Cleveland meeting the Council of Representatives expressed sincere thanks for the work of the 1952–53 Advisory Committee (Irwin A. Berg, Arthur W. Combs, Roy M. Dorcus, Albert Ellis, Roger Heyns, and Stanley G. Estes, chairman).

FILLMORE H. SANFORD

IMPLICATIONS FOR LEGISLATION IN THE REPORT OF THE *AD HOC* COMMITTEE ON RELATIONS BETWEEN PSYCHOLOGY AND OTHER PROFESSIONS[1]

AD HOC COMMITTEE ON RELATIONS BETWEEN PSYCHOLOGY AND OTHER PROFESSIONS

ALTHOUGH the charge given this committee was considerably broader than "legislation for psychology," one of the basic reasons for creating the committee was the realization by the Board of Directors that the APA would soon be urged to take a position on a series of interrelated policy questions:

I. Should the APA favor, discourage, or take no position regarding legislative efforts by state associations?

II. If the APA should decide to encourage legislation, should it support licensing or certification?

III. Should the APA encourage, discourage, or take no position with respect to independent private practice by psychologists?

IV. If the APA should decide to support independent practice, what should be the minimal qualifications of psychologists for such practice?

V. Should the APA take action with respect to pending legislation which would limit the application of psychological techniques by psychologists and members of other professions?

The committee, after a great deal of deliberation, came to unanimous decisions on each of these issues. However, since our recommendations concerning them are embedded in a larger report dealing with other matters, it may be useful to restate the committee's position and indicate reasons for the position on each of the issues.

Issue I. Should the APA adopt an official position with respect to legislation for psychologists? The committee's answer was a resounding "Yes." It is stated as:

Principle 5.2.

In sharing its applied functions either alone or in association with other professions, psychology accepts the responsibility for adopting every feasible means to protect the public from the incompetent or unwise application of psychological knowledge and techniques.[2]

Issue II. Should the APA support licensing or certification? The committee recommended mandatory certification rather than licensing as the most appropriate and socially defensible position on this issue. Since the terms "licensing" and "certification" have somewhat different meanings from state to state, it seems desirable to avoid semantic confusion by stating the committee's position in other terms: the report is opposed to legislation that attempts to define the professional activities of psychologists and to prohibit these activities on the part of nonpsychologists; the report favors legislation which provides for the public designation of persons whose training and experience justify the use of the title "psychologist"; it also favors legislation restricting use of the title "psychologist" to persons so qualified and designated. In brief, then, the report favors "certification" of psychologists on the basis of professional qualifications *and* "mandatory certification" or "licensing" which proscribes the use of the name "psychologist" by persons not certified. The major argument against legislation which would limit designated professional functions to psychologists only is stated as:

Principle 5.1.

The professional services rendered by psychologists vary greatly in their distinctiveness. Some are rarely carried out by nonpsychologists; others are shared with several professional groups. Public welfare is advanced by the competent performance of socially useful services by a number of professions. Psychology believes it undesirable to at-

[1] This committee (formerly called the *Ad Hoc* Committee on Relations between Psychology and the Medical Profession) was appointed by the Board of Directors in May, 1951 to formulate recommendations for the guidance of the Association. Its recommendations are contained in the report of the committee published in the *American Psychologist*, 7, 145–152, May, 1952.

[2] The wording of this and the other principles quoted reflect the changes incorporated in the final draft of the report adopted by the Council of Representatives in September, 1953.

tempt to control the practice of all psychological functions by restricting them to members of any single profession *except insofar as it can be clearly demonstrated that such restriction is necessary for the protection of the public.* Psychology, therefore, does not favor narrowly restrictive legislation, which provides that only psychologists (or teachers, or physicians, etc.) may engage in certain applications of psychological knowledge and techniques.

Perhaps the most cogent reason for the committee's position on this issue grew out of the conviction that it is not possible to define clearly the appropriate functions of psychologists for purposes of restrictive legislation, without including activities appropriate to many other professional groups. To attempt to exclude qualified persons in other professions from applying psychological techniques was regarded as socially not defensible. The attempt to define in legal language the unique activity of applied psychologists runs into two major difficulties. First, careful and reasonably precise statements of their activities, as of today, could be interpreted very narrowly by courts, leading in effect to a restriction of the field that would not be consonant with what was intended in the language of the law or what is acceptable to most psychologists. Second, if the legal language is general enough to prevent the occurrence of what has just been described, it might lack specificity to the point of arousing some feelings of threat on the part of allied professional groups.

The committee sees certification as a necessary step in the development of any profession whose members engage in the application of psychology This position is clearly spelled out:

Principle 5.21. Psychology accepts the responsibility for (*a*) establishing meaningful standards of professional competence, (*b*) designating to the public those members of the profession who have met these standards, and (*c*) effectively informing the public concerning the meaning of the established standards of competence.

Principle 5.22. Psychology accepts the responsibility for establishing and certifying standards of professional competence of its own members, but since some applications of psychology are shared with members of other professions, it believes that these other professions should also accept the responsibility of maintaining standards of professional competence of their own members with respect to the application of psychological knowledge and techniques. Psychology stands ready to cooperate with all other professional groups in devising means of protecting the public from charlatans and quacks in the human relations field.

Psychology has already accepted the responsibility for formulating a code of ethics adequate to protect the public and for enforcing this code among its members.

Principle 5.24. In the interests of both the public and the client and in accordance with the requirements of good professional practice, the profession of psychology is obligated to seek legal recognition of the privileged nature of these communications.

Issue III. Should the APA encourage, discourage, or take no position with respect to independent private practice of psychologists?

This is admittedly a delicate issue and on first thought may not appear directly related to the larger problem of legislation for psychologists. In this committee's opinion, however, it is a central and inescapable aspect of the problem. Historically, psychologists have functioned primarily as staff members of institutions (universities, hospitals, clinics, industries, etc.). In such settings, the employing institution vouches for (i.e., "certifies") the qualifications of any individual employed with the title "psychologist." Furthermore, the institution delineates the duties and responsibilities of the psychologist, and directly or indirectly provides for the supervision and continued evaluation of his professional performance.

By contrast, the independent private practice of psychology, whether in the clinical, industrial, or counseling fields, is not subject to the forms of social control implicit in institutional settings. Instead, the individual psychologist assumes full responsibilities:

a. for deciding what clients and what kinds of problems he will accept or reject,

b. for determining the amount and the nature of his interaction with other professional persons through consultation, referral, supervision, etc.,

c. for evaluating the quality of his own professional efforts.

As of the moment, relatively few psychologists are engaged in independent private practice. In general, the APA has not acted officially either to encourage or to discourage this mode of professional activity among its members. Since much of the impetus toward legislative action by states derives from the problem associated with independent practice, any APA policy decisions regarding legislation will have an inevitable effect on the nature and extent of private practice in psychology—and hence in the long run—on the nature of the profession of psychology.

For these reasons, the *ad hoc* Committee regarded the issue of independent practice as a cen-

tral one. After considerable deliberation, growing out of wide differences of opinion among members of the committee, it was decided to recommend that the APA take a position supporting the right of its members to choose independent practice as a mode of professional activity; however, in view of the nature and complexity of the responsibilities assumed by persons making this decision, the committee recommended that the APA limit its endorsement of this privilege to psychologists "fully qualified." This is stated as Principle 5.4 of the committee's report:

Principle 5.4.
Since our society endorses independent private practice of the professions, the profession of psychology regards it as appropriate for its members to choose this mode of practice, providing that they are properly qualified.

Principle 5.41. Recognizing that independent private practice, whether in clinical, counseling, or industrial psychology, involves the assumption of grave professional responsibilities [3] requiring both high technical competence and mature judgment, the profession of psychology will support a member's decision to elect this mode of practice only if, in the judgment of his peers, he is qualified by training, experience, maturity, and attitudes to hold himself forth to the public as a qualified psychologist.[4]

Principle 5.42. Since the practice of psychology in institutional settings or under qualified supervision or in team or group practice (whether supported by a community or by private fees) encourages collaborative decisions and provides for certain social controls, such practice may be appropriately engaged in by psychologists who do not yet meet the high qualifications expected of persons for independent practice.

[3] Such as the responsibility for (*a*) deciding what kinds of problems and which clients he will accept or reject; (*b*) deciding on the amount and the nature of his collaboration with other psychologists and other professional persons; and (*c*) evaluating the quality of his own professional activities.

[4] The most tangible evidence of such endorsement by peers is possession of a Diploma issued by the American Board of Examiners in Professional Psychology, a diploma issued only after an intensive evaluation of a psychologist's training, experience, reputation, and professional attitudes in addition to written and oral examinations. Other current symbols of achievement or status (e.g., the possession of an MA or PhD degree, membership in the APA or its divisions, previous experience in private practice, and certificate or license of a state) do not guarantee the degree of professional competence deemed necessary for fully independent practice.

Some psychologists not holding an ABEPP diploma may admittedly be fully competent to assume the responsibilities of independent practice. However, psychologists electing to enter independent private practice without a certifying diploma must do so without the assumption that their colleagues or their professional associations will agree with the propriety of their decision.

This decision to recommend APA support of the principle of the right to choose independent practice was made in spite of the unanimous opinion among committee members that "the interests of good practice are best met when applied psychologists work in close and intimate conjunction with other psychologists and with members of other professions." [3] In a society, in which independent practice is characteristic of many other professions, it would seem indefensible for any profession to deny this privilege to properly qualified persons.

Because of the additional responsibilities involved in the practice of psychotherapy by psychologists, the final draft of the report restates a previously adopted APA policy as follows:

Principle 5.44.
The profession of psychology approves the practice of psychotherapy by psychologists only if it meets conditions of genuine collaboration with physicians most qualified to deal with the borderline problems which occur (e.g., differential diagnosis, intercurrent organic disease, psychosomatic problems). Such collaboration is not necessarily indicated in remedial teaching or in vocational and educational counseling.[5]

[5] The substance of this principle was originally adopted by the APA Council of Representatives on September 8, 1949. It is, however, believed desirable that it be included here in the present context. The principle is also incorporated as Principle 2.514 of "Ethical Standards for Psychologists."

Issue IV. What minimal qualifications of psychologists are appropriate for independent private practice?

Admittedly the phrase "providing that they are properly qualified" in Principle 5.4 is not very specific.

Our official "Ethical Standards for Psychologists" adopted in September 1952 includes as Principle 2.14–1:

It is unethical for a psychologist to offer services outside his area of training and experience or beyond the boundaries of his competence.

1. The definition of minimum requirements for the practice of psychology falls outside the purview of this code. Psychologists engaged in practice are expected to be informed of professional standards prescribed by the American Psychological Association and to adhere to all requirements relevant to their work.

[3] Note that these conditions are characteristic of "group fee practice" as well as institutional practice.

In the absence of standards designated by the APA, psychologists now in independent practice are forced to rely on their own judgment as to whether or not they are "qualified." Admittedly APA membership requirements are not designed to screen for professional competency. One solution to this dilemma would be for the APA to adopt the position that it would support the privilege of private practice for anyone "certified" or "licensed" by any state. An alternate solution would be for the APA to adopt the position of regarding as "qualified" for independent private practice only those psychologists certified in their specialty by the American Board of Examiners in Professional Psychology.

In spite of the inherent appeal of the "state's right" alternative, i.e., permitting each state to define "minimal standards for practice," the *ad hoc* Committee doubts the wisdom of recommending it as APA policy. A review of the present state laws regulating psychologists indicates that to do so would in effect put the APA in the awkward position of approving the "right to practice" of persons with minimal requirements as low as those for Associate membership in the APA. We do not believe that the Association should accept our recommendation supporting the privilege of private practice unless it also limits this privilege to persons of demonstrated superior qualifications. And although we did not state the qualifications we had in mind, seven of the eight original members of the committee were of the opinion that the proficiency requirements represented by the ABEPP diploma were appropriate for APA support of the principle of independent private practice.[4]

In general, it would appear that most state associations have formulated standards in such a manner as to make eligible for certification the majority of the psychologists in the state—even though a large majority of those eligible for certification have no desire to enter independent practice. For this group, certification constitutes a public recognition of status and it may serve a useful function in up-grading civil service standards. Working as they do in institutional settings, with the social controls provided, this larger group of psychologists might well be certified as "psychologists" on the basis of qualifications less stringent than appropriate for those wishing the endorsement of the profession as qualified to function independently, i.e., as "consulting psychologists." Implicit, then, in the committee's thinking, is the possibility of two-level certification: "Consulting Psychologist" at the level of the ABEPP diplomate and "Psychologist" at the level most appropriate to the local situation in each state at the time legislation is enacted. Persons qualified only at the "Psychologist" level would be expected to function either in institutional settings or, if in fee practice, in a setting providing similar social controls, e.g., in association with a "Consulting Psychologist" or as a member of the staff of a private hospital, clinic, or firm of consultants. After appropriate supervised experience in such settings, "Psychologists" could look forward to advancing to the status of "Consulting Psychologists." Control of the locus and nature of practice would be internal to the profession, i.e., on the basis of the ethical code rather than spelled out in the state certification law.

Two-level certification along the lines here suggested (or three-level, if a state's association wishes to certify also "Psychological Assistants") would seem to have the merit of denoting to the public those differences in professional competency which are of proper concern to the public and to the profession. Each state could utilize already existent ABEPP procedures for carrying out the complex, arduous, and expensive task of evaluating professional competence requisite for certification at the "Consulting Psychologist" level. Certification at the "Psychologist" or "Psychological Assistant" levels might well be based on standards and evaluation procedures established by the individual states.

Issue V. Should the APA take action with respect to pending legislation which would limit the application of psychological techniques by psychologists and by members of other professions?

Legislation affecting the activities of psychologists may be sponsored in states by groups other than psychologists. Such proposed legislation may or may not be conducive to the social utilization of psychological principles and techniques. The committee's report, therefore, included the recommendations that the APA adopt the policy of opposing legislative proposals which would establish unreasonable restrictions on the functions of psychologists or on the activities of members of other professions properly qualified to apply psycho-

[4] This opinion was incorporated in the final draft of the report as adopted by the Council of Representatives.

logical techniques. This policy recommendation is stated in its general form as:

Principle 6.

As an autonomous profession, psychology cannot accept limitations upon the freedom of thought and action of its members other than limitations imposed by its social responsibility and by considerations of public welfare. The profession must resist moves from any source to establish nonfunctional restraints on the behavior of psychologists whether in the role of teacher, researcher, administrator, or practitioner.

Specific application of the general principle to matters of legislation is stated as:

Principle 6.2.

Psychology as a profession will resist all attempts at restrictive legislation which promise to limit unduly or to abrogate the psychologist's opportunities to function as an independent professional person.

SUMMARY

The Report of the *Ad Hoc* Committee on Relations between Psychology and Other Professions includes a number of recommendations for APA policy with respect to legislation:

1. That the APA should support the activities of state associations to secure legislation appropriate for psychology.

2. That the APA should favor legislation which (*a*) provides for certifying persons whose training and experience qualify them to be called "psychologists" and (*b*) which limits the use of the name "psychologist" to persons so certified.

3. That the APA should oppose legislation which attempts (*a*) to specify the activities of a psychologist and (*b*) to limit these activities to persons designated as psychologists.

4. That the APA support the privilege of qualified psychologists to choose independent private practice as a mode of professional functioning but that this privilege be limited to persons who are "properly qualified."

5. That the APA oppose restrictive legislation which promises to limit unduly the appropriate functioning of psychologists in American society.

Ad Hoc COMMITTEE ON RELATIONS BETWEEN PSYCHOLOGY AND OTHER PROFESSIONS

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PROS AND CONS OF LEGISLATION FOR PSYCHOLOGISTS

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WHEN confronted with the possibilities of legislative action, psychologists have five major choices: they may attempt to amend presently existing laws which are restrictive; they may oppose the enactment of restrictive legislation initiated by others; they may seek the enactment of certification laws; they may seek the enactment of licensure laws; they may try to maintain the *status quo* in states where no special laws exist. In practice, there is little disagreement among psychologists concerning the first two of these choices, since virtually all agree that, where feasible, existing restrictive laws should be amended and new restrictive legislation opposed. In New York State, for example, where considerable differences of opinion among psychologists exist concerning what kind of legislation, if any, should be sponsored by the state psychological organizations, a solid front was quickly and vehemently shown when a restrictive change in the medical practice act was sponsored by medical interests; and this proposal was swiftly killed in the legislature.

The three practical issues confronting psychologists, therefore, are whether to sponsor (*a*) licensure, (*b*) certification, or (*c*) no legislation at all. Licensure, in a pure form, would give psychologists, and them alone, the right to engage in psychological practice. A licensing bill would therefore have to include a definition of what a psychologist is and does, and would forbid anyone who is not licensed from either calling himself a psychologist or practicing the things which a psychologist does. Legal certification (which is the only kind of certification that will be considered in this paper) forbids anyone who is not certified from calling himself a "certified psychologist," or from engaging in certain areas of psychological activity (e.g., as a school psychologist), but it does not generally forbid noncertified psychologists from practicing or from calling themselves psychologists. Being less restrictive than licensing, certification laws need never specifically define the function of psychologists, but may merely state what requirements they need fulfill in order to merit certification.

In between pure licensing and legal certification are several hybrid forms of legislation. The proposed bill passed by the New York State Legislature in 1952 but vetoed by Governor Dewey was a hybrid bill that was labeled a licensing bill but actually included many of the provisions—especially, the avoidance of precisely defining the term "psychologist"—normally included in a certification bill. It avoided this precise definition by asking for the licensing of individuals who call themselves psychologists and perform psychological functions, thus leaving the way open for individuals (such as social workers) who call themselves something else but some of whose functions overlap with those of psychologists. The recent Tennessee bill for the licensing of psychologists is also something of a hybrid bill in that it does not specifically bar nonpsychologists from engaging in activity that might be deemed to be of a psychological nature, but does ban the nonlicensed activity of any person who "shall hold himself out to the public as being engaged in the practice of psychology." Whereas, then, a pure certification bill only forbids an uncertified individual from calling himself a "certified psychologist," and a pure licensing bill forbids an unlicensed individual from practicing psychology no matter what he calls himself, a hybrid licensing bill (such as the Tennessee and the proposed New York bills) forbids an unlicensed individual from calling himself a "psychologist" or from saying that he is engaged in the practice of psychology.

The main pros and cons of psychologists' attempting to secure the enactment of licensing or certification laws in their local states, or to refrain from such attempts, will now be discussed under three main headings: (*a*) the protection of the public interest; (*b*) the effects of legislation on psychologists; and (*c*) the probabilities of succeeding in any legislative effort.

Protection of the public interest. In favor of *licensing* the following points have been presented by some psychologists: (*a*) Some law is needed to protect the public against quacks, and strict licensing laws offer the best protection of this sort. Under certification, unqualified individuals could still call themselves "psychologists" as long as they did not call themselves "certified psychologists." (*b*) The public is becoming more concerned about the problems of psychological quackery, and unless we pass licensing laws directed against unqualified practitioners, the public may question our reticence and may pass laws of which we would not approve. (*c*) Licensing rather than certification laws are needed because certification "enhances and in a sense legalizes the uncertified as well as the certified practitioner. In the absence of legislation, the quack may be presumed to be practicing only as long as there is no law. Certification legislation, however, legally states that he may practice even though he is denied the state's certificate of competence" (1, p. 652).

In favor of *legal certification* these points have been presented: (*a*) Licensing will actually protect the public little more than will certification, because if a bill to license psychologists is passed by a state legislature, quacks may still call themselves "personal counselors," "marriage counselors," etc., and thereby evade its provisions. (*b*) Certification will admittedly not abolish quackery but it will present to the public a group of well-qualified practitioners whom the public may then feel safe to consult.

In favor of *not attempting to get any law enacted* these points have been alleged: (*a*) Neither licensing nor certification will probably adequately protect the public from quacks, and our motives in saying that they will may be suspect. (*b*) If we really want to protect the public, we should concentrate on policing our own ranks and adopting and enforcing high standards of training and practice, rather than on obtaining legislation. (*c*) To control quackery in the field of human relations is not a problem for psychology alone but for all professions engaged in human relations. (*d*) Attempts to get rid of quackery by legislation may lead other groups, now regarded as flavored with quackery, to seek and perhaps get legislation to protect themselves from psychology and thus to enhance their position. (*e*) Licensing and certification laws, particularly the former, may prevent many competent psychotherapists or other practitioners who would not be able to meet the provisions of such laws but who are nonetheless offering valuable services to the public from practicing.

The effects of legislation on psychologists. In favor of *licensing* these arguments have been presented: (*a*) The best way for psychologists to establish themselves as an independent profession, and to gain maximum status and recognition from the public and from other professional people, is for them to be unequivocally licensed. (*b*) Licensing affords maximum legal recognition, and would help psychologists to obtain changes in tax regulations, jury-duty laws, and other laws that now ignore or discriminate against them. (*c*) Licensing offers psychologists maximum protection against inimical changes in medical practice acts or other restrictive actions initiated by other professional groups. (*d*) Licensing would encourage the raising of standards of psychological practice and the effecting of intrapsychological housecleaning much more than would certification. (*e*) The fact that psychiatrists and physicians have officially advocated that psychologists be certified rather than licensed shows that psychologists would obviously benefit more from licensing than certification. (*f*) Certification, even when viewed as a temporary expedient, will tend to perpetuate itself and to hinder the achievement, later, of more status-achieving licensing.

In favor of *certification* some psychologists have presented these arguments: (*a*) A licensing bill that would include a specific definition of what a psychologist is may tend to be more precise, definitive, and restrictive than the present state of changing function in psychology warrants. (*b*) Licensing would tend to deprive many competent psychologists of a livelihood while certification would enable them to continue to practice, though on a noncertified level. (*c*) Licensing, more than certification, will give other groups a greater incentive to attempt to pass restrictive legislation against psychologists. (*d*) Certification, even though a temporary expedient, would be concrete enough to offer psychologists some measure of status and would help raise standards of psychological practice. It would be a step that would reassure psychologists, quiet many of their fears, and help cement their ranks.

In favor of maintaining the *status quo* and *making no attempt* at legislation these arguments have been put forth: (*a*) Although legislation may give

additional status to licensed or certified psychologists, it will at the same time reduce the status of many psychologists who do not qualify for a license or legal certificate. (*b*) Both licensing and certification will tend to put some competent psychologists out of business. (*c*) To be legislated into a state of distinction or higher status is not satisfactory to many psychologists who would prefer to attain this higher level of distinction by showing what they and psychology can do rather than passing any law. (*d*) Instead of being raised by legislation, psychological standards may actually be lowered, since laws tend to include minimum standards and thus to lower the general level of competence in the field. (*e*) Raising psychological standards by legislation may lead to a tendency to keep raising them so high that the profession will eventually price itself out of the market, to its own and to the public's detriment. (*f*) Legislation does not give psychologists the right to practice their profession, since they normally have this right when no legislation whatever exists. Both licensing and certification actually take away the rights of certain psychologists, rather than adding to them. (*g*) Legislation per se does not seem likely to increase the perceived dignity and value of psychology which, in the long run, depend on performance—provided psychologists are free to perform.

The probabilities of succeeding in any legislative effort. Favoring *licensing* these points have been presented by some psychologists: (*a*) Assuming that, because of the opposition of other groups, licensing may be more difficult to obtain than certification, psychologists should not yield a just and desirable position merely because opposition to it exists. (*b*) Although licensing may be difficult to obtain, it should not prove to be impossible—as shown by the licensing of psychologists in some states and by the licensing of dentists, physiotherapists, osteopaths, and others, in spite of medical opposition. (*c*) Legal certification may well prejudice the possibility of later licensing, because state agencies and legislatures may be reluctant to help psychologists obtain licensing when they are already supposedly protected by certification. (*d*) Licensing bills for psychologists may be written in such a manner that they will not jeopardize the practice of other legitimate practitioners, such as social workers and vocational counselors; and psychologists may thereby enlist the aid of these other groups in presenting their bill to the legislature. (*e*) Any certification bills which organized medicine would actually support would inevitably limit the functions of psychologists, particularly in relation to psychotherapy. (*f*) Especially if psychologists obtain certification with the aid of organized medicine, they may be placed in the position of not being able to oppose restrictive legislation when medicine wants to pass such legislation.

In favor of *certification* these arguments have been presented: (*a*) In most states, because of medical and other opposition, it will be much easier and less expensive to pass a certification than a licensing bill. (*b*) Because psychologists cannot write a precise definition of psychology that would satisfy members of all allied professions, it would be easier to enlist the aid of these others for a certification law that would not attempt such a precise definition. (*c*) A knockdown, drag-out fight with medicine over a licensing law may do considerable harm to psychology and psychologists. (*d*) It may be easier to obtain licensing once certification has already been achieved.

In favor of attempting *no legislation* these points have been claimed: (*a*) It will be difficult and expensive, at the present time, to pass either licensing or certification bills in many states, and the possible advantages of passing such laws do not outweigh the difficulties involved in passing them. (*b*) Both licensing and certification laws would meet some opposition from psychologists themselves and would therefore not be easy to pass. (*c*) The longer psychologists delay in attempting any kind of legislation, the stronger they are becoming; eventually, they may be better able to obtain the kind of legislation they really want and need.

The foregoing are the main arguments in favor of licensing, of certification, and of making no attempts, at present, to pass any kind of legislation for psychologists. No attempt will be made to evaluate these arguments, as they are being presented for purposes of information and discussion. Psychologists in many of our states are now confronted with deciding what they will do or not do about legislation. It is hoped that this presentation of pros and cons will help them come to clearer and better decisions.

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PROBLEMS AND DEFINITIONS IN LEGISLATION

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LEGISLATION is a complex business. To deal effectively with its problems requires the clearest possible understandings. Yet, we are often confused and frustrated in these matters through the lack of clear, concise, and meaningful definitions by which we can communicate among ourselves, with other professions, or with the public we hope to serve. Semanticists, phenomenologists, and perceptionists tell us that what we believe governs our behavior. If this is so, we cannot afford to be confused about our meanings with respect to ourselves and our practices. This is particularly true in regard to legislation. Legislation based upon vague definitions or understandings could well have serious effects upon our profession for years to come.

In every state which has wrestled with the problems of legislation, the problem of defining our profession, its role, and methods is always a knotty one. It is difficult enough to find definitions that make communication possible with other professions or with state administrative officials. It is downright discouraging to achieve agreement outside the profession only to discover that the profession itself is not sure of its stand on the point in question. It becomes more and more apparent that we need closer examination of the words we use and clearer definitions of who we are and what we believe. Without a broad understanding of these problems among our membership, our difficulties in communicating with other professions or writing legislation will continue to frustrate and annoy us.

In this article we have attempted to examine some of the basic concepts and problems which seem most urgently in need of clearer definition. These are matters that seem to us to underlie many of our problems in dealing with other professions and in writing legislation. We have stated them here in the hope of stimulating debate and discussion. It seems to us that only out of much discussion can we hope to arrive at the common understandings and definitions we sorely need to solve our legislative problems.

PSYCHOLOGY, SCIENCE AND/OR PROFESSION?

Almost all of us will agree that psychology is a basic science of behavior. This it has been since its inception. Psychology as a profession, concerned with the applications of its findings to practical problems of human welfare, is a much newer concept, however. There are many psychologists who feel quite sincerely that it is a mistake for us to concern ourselves with the practical problems of professional service. As a result we are confronted with a serious division within our own ranks that produces failures of understanding among ourselves and confusion in dealing with others outside our profession.

Those who value the pure science aspects of psychology often view with alarm the tremendous growth of the professional applications of our science. With real humility our fundamental scientists feel some doubts as to the adequacy of our understandings to enter upon the responsibilities of applied action. They find themselves confronted with vast unsolved problems almost daily and are jealous that precious manpower should be drawn from the exploration of these problems. They are not deeply concerned with problems of social responsibility. Rather, they feel the greater contribution of our discipline can be made in producing ever better understanding of behavior, and they are content to leave the application of their findings to others. Psychology, to these scholars, is first and foremost a science. They see in the growth of psychology as a profession the possibility that scholarship and research may be sacrificed to the demands of practice with concomitant losses in prestige and support to basic science. These are honest concerns of people of good intent. That such concerns should result in occasional bitterness or scorn of their applied colleagues is deplorable but not incomprehensible.

On the other hand, the applied psychologists, it must be admitted, have not always recognized their fundamental debt to our basic science. They have sometimes behaved as though they were completely

self-sufficient and in their desire to "do something" about things have occasionally failed to value sufficiently the careful, serious study of their more theoretical colleagues. Their honest concern to contribute to the solution of our problems of human welfare and happiness, however, also deserves our appreciation and respect.

Psychologists, after all, are human even though one may occasionally have reason to doubt it. As human beings, they have a responsibility to contribute to the welfare of themselves and their fellows. If psychology is not to be an applied profession, then legislation need not concern us. It seems likely, however, that we are in the applied business to stay. Whether we like it or not, the pressing need to solve our problems of human interrelationships will not permit us to remain exclusively a laboratory science. If this is so, then it behooves us to accept the inevitable and get about the business of developing greater harmony within our own household. The problems of concern to one portion of our family must of necessity be the concerns of all of us. Applied psychology does not endanger pure science; it stimulates it, supports it, and immeasurably extends it. With the growth of applied psychology we have seen a concurrent growth of pure science. There are far more "pure" psychologists today than at any time in our history, although the past twenty years have been chiefly remarkable for the growth of our applied branches.

In dealing with agencies outside our own profession we cannot behave effectively if we are confused about our own self concepts. One cannot approach other professions or the legislators of our various states in doubt about whether we are a profession. One cannot say, "We need legislation because some of us *think* we are a profession!" Nor can we afford to be so divided among ourselves that we are forced to apologize for the lack of understanding of our own colleagues! Legislation is a problem affecting *all* psychology. To approach this problem effectively we need clear self concepts of ourselves as psychologists mutually interdependent and responsible to each other and to the larger society of which we are part.

WHAT IS A PSYCHOLOGIST?

A major problem in any attempt to write legislation is that of finding an effective definition of just what a psychologist is. The terms "psychology" and "psychologist" are terms in the public domain. They are household words in our society. Everyone has behaved and some have misbehaved. As a consequence, everyone has had some personal experience with human behavior and considers himself more or less a psychologist of sorts. Human behavior, the commodity with which the psychologist deals, is universal. It can never be made the exclusive prerogative of any profession any more than the right to grow plants can be made the exclusive prerogative of the farmer. Like the farmer, the psychologist has a special interest in his subject matter and special skills or experience to bring to it, but he will never be able to claim the field exclusively for his own.

In every state which has struggled with the problems of legislation, a major problem has been to find a satisfactory definition of a psychologist. Any attempt to define a psychologist on the basis of what he does, however, has invariably resulted in making psychologists of a lot of people who never thought of themselves as psychologists at all. Surprising as it may seem, some of them even feel pretty angry about this. Social workers, physicians, ministers, teachers, parents, personnel workers, anyone who deals with people, inevitably use many of the same kinds of techniques as the psychologist. It appears impossible to compose a definition of a psychologist on the basis of his functions which clearly differentiate him from other workers in the field of applied human relations. A psychologist might be defined as a person who does what everyone else does (deals with behavior), only presumably he does it better by reason of his training and experience. Such a definition is hardly adequate for legislative purposes, however.

A tremendous amount of time and study has been devoted to this problem in every state which has sought legislation. Obviously, there can be no control of a profession without some criteria to determine who is, and who is not, a legitimate member of that profession. Out of the experience of the various states, three criteria have come to be accepted with some modification for constructing a definition. They are as follows:

A person is a psychologist who:

1. professes to be a psychologist or in some manner holds himself out to be a psychologist.
2. applies psychological principles to human problems.

3. is possessed of certain minimum standards of training and experience.

A definition covering these three points seems effective in separating the psychologist from other professions in the field of human relations.

In addition to the problems of differentiating psychologists from other professional workers, psychology has an additional problem long since solved in other professions. Most other professions have specific terms for differentiating the practitioners in their ranks from the basic scientists. Psychology does not. Indeed, we have repeatedly resisted the separation of our scholars and our practitioners. Medicine distinguishes between its anatomists, physiologists, biochemists, and its physicians. Religion has its theologians and its ministers, priests, or rabbis. Social science differentiates between its scholarly sociologists and anthropologists and its practicing social workers. Each of these other professions has specific names by which to designate its scholars, researchers, theoreticians, and clearly differentiates them from those members of the profession engaged primarily in the application of knowledge.

Psychology, however, has no such clear designation. In our profession we use the same term, "psychologist," to designate the professor, statistician, administrator, clinician, counselor, personnel officer, or industrial consultant. This failure to distinguish the applied from the academic members of our profession creates much confusion in the minds of people outside our profession. It is difficult enough for the average layman to distinguish psychology from psychiatry. To the man in the street all psychologists are practitioners.

We need a descriptive label for our practitioners. The kind of training and experience required for the research psychologist or professor is not the same as that required for the psychotherapist, hospital diagnostician, or industrial consultant. The purpose of legislation is to designate qualified practitioners for the guidance and protection of the public. To do this effectively we need a term by which practitioners can be distinguished from their academic, research, or theoretically oriented colleagues. Not all psychologists are trained for practice. In the public interest we need to describe our qualified practitioners clearly and unmistakably.

Using the same term for both kinds of psychologists gets us into some strange predicaments. Legislation in several states now reserves the term "psychologist" for the practitioners. Having reserved the generic term "psychologist" for the practitioner, it becomes necessary to write in a clause permitting academic, teaching, research, or writing psychologists to call themselves "psychologists" even though they may not qualify under the bill. Thus, the academic, research psychologists find themselves in the strange position of being granted the right to use their historical designation only by sufferance under the law!

Legislation already passed and now in operation in various states provides for the following titles for practicing psychologists:

Psychologist—Tennessee
Certified psychologist—Connecticut
Psychological examiner—Tennessee
Certified clinical psychologist—Virginia
Applied psychologist—Georgia
Clinical psychologist—Kentucky

Bills under discussion during the past year provide for these additional titles: Qualified psychologist, Licensed psychologist, Consulting psychologist, Certified consulting psychologist, Psychometrician, and Psychological technician.

This is quite a list of titles considering the few states which have so far achieved legislation. One shudders to think what the list might be like if all forty-eight had licensing laws. Even more distressing is the thought of what would be required to change all these to some common terminology *after* enactment.

Further entanglements in our attempts at designating our practitioners are currently developing. There is a growing feeling in a number of states that legislation should establish a kind of second-class practitioner at less than a doctorate level of training. Tennessee, for example, licenses "psychologists" with the doctorate degree and "psychological examiners" at less than the doctorate level. Pennsylvania introduced a bill into their legislature this year that would have provided for the licensing of "psychological technicians." Other states have considered recognizing "psychometricians." We do not mean to argue here whether it is desirable to seek legislation at several levels of training and experience. What does concern us is the fact that each time one of these new titles is enacted into law, the problem of common definitions and common meanings in our profession becomes increasingly more difficult.

It is not a simple matter to change a law in any of our states. Once a law is enacted, it is a difficult, expensive, and time-consuming operation to get even a minor change in wording. To change the title of a licensed group is even more difficult once the administrative machinery for licensing has been established and licenses have begun to be issued. After that, any change in the law becomes exhaustingly complex because it means the recall of old licenses and the issuance of new ones. This is a serious problem and could conceivably get worse very rapidly. Our problems of definition are confusing enough as it is. We need to do all we can to avoid making them worse. We need a national policy as soon as possible to prevent further complications. Such a policy must particularly answer these questions:

1. Whether we should seek licensing on more than one level of competence.
2. If so, what titles should we recommend for common use in all states.

THE PROBLEM OF QUACKERY AND THE PUBLIC INTEREST

Whenever the question of legislation for psychology is raised, there is always a great deal of talk about quackery and the public interest. Like sin, everyone seems to be against quackery, just as everyone is for the public interest. Unfortunately, when the chips are down and something must be done about these problems, the concepts of quackery and the public interest sometimes get rather fuzzy around the edges or run the risk of becoming lost in competition with other factors.

We need to remind ourselves frequently in dealing with legislative problems that the only excuse for legislation of any sort is to *regulate and control for the common good.* The purpose of licensing is *not* to establish special privileges for a profession, but to protect the public from incompetence and to assure the public that professional persons have met certain minimum standards of efficiency as established in the licensing bill.

Legislators examining the desirability of licensing still another profession are likely to ask themselves three fundamental questions:

1. Is there a real and present danger to the public which the licensing of this profession would eliminate?
2. Are the definitions of the profession and its functions sufficiently precise as to obviate hurting the innocent?
3. Are the standards established for the profession realistic and acceptable to the profession and to the public?

The legislatures of every state have been bombarded in recent years with requests for licensing from hundreds of groups seeking special privilege under the law. In every state, each legislative session sees half a dozen new bills introduced to license some new group. So many groups have sought licensing in the past few years that legislators have become extremely skeptical about any group seeking licensure. They have seen licensure used too often as a neat device to produce a closed shop. The pattern goes something like this: A particular profession or trade seeks licensing "for the protection of the public." The legislature establishes the group as a licensed profession and thereafter licenses to practice are issued by a board of examiners made up of members of the profession. These examiners, either by intent or honest enthusiasm for their subject, quickly raise the standards for licensing or achieve the same end through constructing examinations more and more difficult to pass. Over a period of years this produces an exclusive club whose members manage to keep the practitioners of the profession in continual short supply. This is fine for the pocketbooks of the profession, but hardly in the public interest. The public, in fact, finds that its own laws, designed originally for the public welfare, have instead resulted in less service at greater cost.

There is at the present time a national movement to give careful study to the whole problem of licensure. Legislators have been burned so often that they are inclined to turn a jaundiced eye on any new proposal for licensing. This is the background in many states against which psychology must seek for licensing.

What is the danger from which licensing would protect the public? What do we mean by quackery? To what extent will licensing protect the public from quacks? We need to be clear on these matters lest we make the mistake of selling ourselves and others a bill of goods which we cannot deliver.

What do we mean by quackery? The definition of what constitutes quackery is comparatively easy

in the medical profession, where one need only demonstrate that a patient has been treated by an unlicensed person and has seriously suffered thereby. It is fairly straightforward and simple to determine whether or not the accused party *did* something to the patient. The determination of what constitutes quackery in the field of human relations, however, is a quite different matter.

In a human relationship, just when is a person harmed? How can you prove it? These are difficult questions to answer for the plain fact of the matter is that people are helped by the damndest things. Almost anything may help people to behave more effectively or to feel happier given the right circumstances. Who is to say that a particular idea taught to a client was an act of quackery, especially if the client swears it was helpful? Much of the business of human relations is carried on through no more than what one person says to another. It is doubtful if we shall ever seriously want to control such intercourse in a free, democratic society. The cure could well prove more fatal than the disease.

The psychologist has a stake in the control of quackery the same as any other citizen. As a professional worker in the field of human relations, he has an even greater interest in the elimination of fraudulent or dangerous practices. But he cannot be made wholly responsible for the control of quackery, nor should licensing for psychologists ever be expected to produce such control. Psychologists in New York State found themselves in just such an unfortunate position several years ago when the State Department of Education, responsible for the enforcement of licensing laws, attempted to use the psychologists' licensing bill for the control of quackery. For a number of years, certain questionable persons had been operating in the state as counselors, handwriting analysts, etc., and carrying on various forms of psychotherapy. A great many complaints had been received about such persons, but under the law there was no way in which they could be barred from practice. When the psychologists of the state suggested a licensing bill for their profession, therefore, it seemed to some persons in the state administration like an admirable opportunity to bring many of these questionable people within reach of state control. Accordingly, a bill to license psychologists was advanced which defined psychology in terms of what a psychologist does. The net effect of this bill was to make all the quacks "psychologists." The instant they counseled or advised with another person for a fee, they were automatically practicing psychology and were subject to fine or imprisonment for practicing without a license. Although this bill would have made all of the quacks into psychologists, it made practically everyone else a psychologist too! Members of the clergy, the legal profession, teachers, social workers, physicians, and many others did not seem to appreciate this signal honor and objected with great vehemence to the whole idea.

It seems clear that psychologists alone cannot and should not be expected to solve the problems of quackery in the field of human relations. Quackery in this field must be faced by all members of the human relations professions and cannot be made the responsibility of any one of them. Psychology operating alone can only be expected to assume the responsibility for control of members of its own profession. Licensing for psychologists will effectively control those quacks who call themselves "psychologists." This actually amounts to no control at all, however, since the moment licensing for psychologists is enacted, unqualified persons need only to change their names to "counselor," "adviser," or "human relations consultant" and go right on doing business at the same old stand.

It seems clear that licensing for psychologists cannot be justified on the grounds of controlling quackery in human relations. It can be justified to protect the good name of our profession and to assure the public of qualified assistance. These ends are in the public interest, but they are admittedly of considerably less impact as a reason for legislation. We ought not delude ourselves about this. With the present suspicions of our legislators concerning the good will of persons seeking licensing, we cannot afford to make claims we cannot sustain. If we do, we may only succeed in making ourselves appear to be naive, blind, or maliciously misleading.

THE DEFINITION OF STANDARDS

The heart of any licensing law lies in the definition of standards it establishes as minimum for licensing or certification. These standards must be defined in each state and will be governed in

large measure by the kind of legislation each state seeks. It is not the purpose of this article to suggest what standards for legislation *ought* to be. That is a specific problem which can only be defined by local organizations. We would, however, like to suggest three important criteria with respect to setting standards which need careful consideration.

Standards must be common to the profession. Whatever standards are adopted for purposes of licensing professional workers must be standards mutually agreeable within the profession. Standards written into law are a different matter from standards established in a university training program or those set up as goals by a national committee on training. Such standards are voluntary. Standards written into law restrict and prohibit. They establish penalties for violation and prevent, as well as license, practice. To avoid the unhappy situation of disfranchising members of our own profession, standards established for licensing must be common to the training or experience of all those people whom we hope to license whether they be clinicians, industrial psychologists, counselors, school psychologists, or whatever.

We have a number of unsolved problems in this area which need solution before we will be able to write standards for licensing in anything but broad and general terms. It is probable that the standards written into legislation can never be more than the least common denominator acceptable to the profession as a whole (except in certification bills).

Standards must be functionally related to effective practice. The purpose of licensing is the protection of the public through the establishment of minimum standards of practice. Licensing is concerned with professional service. The standards required for licensing the practitioner, then, must be standards having a functional relationship to the services he is licensed to render.

Unfortunately we have a great deal more feeling than fact about what training and experience are required for effective practice in our profession. Almost everyone has his private opinion about what kinds of standards are needed to engage in practice, but we have very little clear-cut evidence of what are really prerequisite to effective service. We need a great deal more systematic exploration of this problem. Meanwhile we need to examine the requirements we write into law with great care.

Psychology has traditionally been an academic and research science. It is a comparative newcomer to the field of professional practice. The training and experience formerly required to produce a distinguished scholar or researcher are not necessarily the same kinds of training and experience now required to produce an effective psychological practitioner. The PhD degree, for instance, has historically been a degree representing scholarly and research competence. There is considerable doubt in many university circles as to whether this degree is truly a functional requirement even for college teaching. Yet, this degree is now required for licensing practitioners in several of our states!

Similar questions could be raised about the functionality of other requirements of our current training programs. It would be rather difficult, for example, to make a very strong case for foreign languages, advanced statistics, or the traditional research dissertation as contributing significantly to the psychologist's skill in practice. We are currently committed to training students who are *both* scientists and practitioners. Whether the standards for training researchers can serve equally well as standards for licensing, however, is by no means a foregone conclusion. We need far better answers than we now possess. To require for licensing, standards which cannot be clearly related to effective practice runs the danger of being accused of establishing a "closed shop" profession.

Standards must be realistically in touch with the needs of the public. Since the only justification for licensing of any kind is the public interest, whatever standards are adopted for licensing our profession must be realistically related to public needs. Standards of training and experience must be high enough to assure that persons serving the public are competent people. At the same time, they must not be so high as to exclude from practice persons who fill real public needs. Public needs are going to be filled one way or another. A profession which establishes too high standards of training and experience for licensing may find itself in danger of pricing itself out of the market. This has already happened in one state in which the psychologists who wrote the job qualifications for a civil service position insisted on standards

completely out of line with the job to be done or the salaries that could be paid. As a result, the psychologists who could qualify were so well trained that they could not afford to accept the positions at the salary offered! Nobody took the examinations. The jobs still needed to be done, however, and several hundred jobs are now filled by persons with little or no training in psychology whatever.

What psychology cannot or will not supply to satisfy human needs will be sought from other professions whether we like it or not. The medical profession has been severely criticized for training too few physicians. Psychology should be certain it does not similarly fail to meet public needs by setting standards so high that it cannot fill the needs of society.

Some psychologists have seen licensing as a means by which we could raise the standards of our profession. This is not a legitimate reason for seeking legislation. It is just this attempt to raise standards by legislation that has caused legislators to look with a jaundiced eye on the whole problem of licensure. Raising standards by legislation is not in the public interest. In the long run, it is probably not in the profession's interest either. It is not the function of legislation to *lead* good practice. Like most other democratic institutions, our laws can only *follow* existing practices. Thus, standards for licensing must always be lower than existing practice. They represent a floor beneath which practice is not acceptable. The raising of standards is the profession's responsibility, not the legislature's.

EXCEPTION OF CERTIFICATION

What we have been saying in the above paragraphs applies primarily to legislation which attempts to restrict or control persons who claim to be psychologists. Many of the above points do not apply to legislation which certifies psychologists for practice but does not restrict people from practicing. In such certification legislation standards may be set as high as the profession pleases since no one is prevented from practice if he does not meet them.

THE USE OF MEDICALLY ORIENTED TERMS

A great deal of the confusion in our relationships with the medical profession and in our attempts to write legislation arises out of the fact that a large number of key words in our profession are words originally coined in the medical profession. Among these troublesome words are the following: clinical, mental illness, diagnosis, treatment, psychotherapy, prognosis, normal, abnormal, disease, maladjustment, mental health, and mental hygiene. As these words are used in our profession, they do not have quite the same meaning and connotations which they did in their original uses. Many physicians, however, do not understand this. Most of these terms have a long history of use in medicine. As a result, they have come to have more or less precise meanings in that profession and they have a feeling of belonging to medicine. Because these terms are so closely associated with the history of the medical profession, the psychologist's use of them is often confusing to the physician or appears as an unjustified liberty. From the medical man's point of view, it seems only logical that if the psychologist is going to do the things described by these medical terms, then he is practicing medicine and should be subject to the same controls and discipline as medicine or its adjunctive professions.

When words have had a long history of use in any connection, it is always difficult to change their meanings later. This is made even more difficult when the terms may be used in the old sense or the new in rapid succession. Even physicians have come to use these words quite outside the situations in which they were originally designed. Most of these words were originally designed for use in a biologically oriented discipline. Now, they are carried over for use in a socially oriented science where they do not have the same meanings. These changes in meaning, however, are not well understood and continue to cause difficulties in communication between professions.

In writing legislation, where the clarity of concepts is particularly important, these confused meanings cause numerous misunderstandings. Our profession has a pressing need for some clear, precise, and simple words of our own which express our meanings free from the contamination of earlier and different settings. Until we have developed such terms, we may do well to avoid medically oriented words whenever possible in attempting to design legislation. That was the gist of one legal opinion in New York State a year ago. It was

pointed out in this opinion that psychologists were probably better off omitting the words "diagnosis" and "psychotherapy" from legislation for the following reason:

> These words have a long history of use in the medical profession and to the layman they are associated with the practice of medicine. As a result, they are "prejudiced words" implying the practice of medicine. This could conceivably be important in a court action involving a question whether a psychologist were practicing medicine or psychology. By avoiding "prejudiced words" the court is forced to examine into and establish the meaning of a term each time afresh and untrammeled by existing meanings in other professions. The same argument could apply to other words employed in our profession. The argument is cogent and seems worthy of a good deal of consideration.

THE CONCEPT OF DISEASE

A great many of our problems in writing legislation and, particularly, in the relationship of clinical psychology to medicine and psychiatry seem to stem from the widespread confusion existing with respect to our concepts of disease, illness, and health. Many of the misunderstandings that occur in our relationships with medicine over such problems as the psychologist's role in psychotherapy, for example, can be traced directly to different concepts of illness in the two professions.

Historically, the concept of illness or disease has been associated with medicine where it has ordinarily referred to some disturbance or abnormality of bodily function. In the practice of medicine, it has traditionally referred to a biological or physiological morbidity. During the period when illness was conceived primarily as a biological problem, our legislatures granted to the medical profession exclusive responsibility for ministering to the sick. In those times, the medical profession unquestionably knew more about the diagnosis and treatment of bodily ailments than any other group. The public also needed assurance that its physicians were competent, and sought protection against fraudulent operations. It was a logical thing, therefore, to pass medical practices acts giving to the physicians the exclusive prerogative of dealing with illness and disease.

In more recent years, as medicine has expanded its conception of the well-being of its patients, the terms "illness" and "disease" have been extended to apply to any kind of disturbance whether physical, psychological, or social. With this extension of concepts, some members of the medical profession have sought to extend the exclusive prerogative of the physician to cover these vastly broadened areas. This has taken the form in some states of attempts to rewrite existing definitions of medical practice. Most definitions of medical practice grant to the physician the exclusive right to deal with physical illness or disease but do not specifically give the physician the right to practice in cases of mental or emotional disorder. Actually, physicians have always had such rights, but not exclusively. The extension of the medical practices acts into these new areas, however, would give physicians exclusive rights to deal with psychological or social problems as well.

Now, no one would wish to argue that the responsibility of the medical profession for the diagnosis and treatment of our physical ailments should be disturbed. It seems necessary to emphasize that the extension of the concept of illness or disease, however, does not warrant a concomitant extension of old responsibilities. Responsibility can only be vested in those with the requisite knowledge and experience to deal with problems. There can be no question that the physician has this knowledge and experience in our old definitions of illness. There is a serious question whether medical training adequately prepares the physician to deal with the "something new" which "has been added" to the old concept of illness. The expansion of our concept of transportation to include flying as well as automobile driving did not automatically make pilots out of car drivers. Physicians can learn to operate effectively in this new area like anyone else, by study and experience. To assume that training and experience designed for one purpose adequately meet another, however, is dangerous.

Psychological adjustment or maladjustment is not the same kind of concept as the traditional concepts of illness or health, although these meanings sometimes overlap. Illness from the medical view is something the physician diagnoses, which is comparatively concrete and objective. It can be determined with respect to fairly definite and observable criteria with which other observers will agree. Even its causes can often be isolated and examined with precision and exactness. Psychological adjustment, on the other hand, has no such precision. Whether people are adjusted or maladjusted is not a concrete, objectively observable

phenomenon but a cultural matter of a "more or less" character, rather than "yes or no." What is adjustment in one group is not in another. Indeed, it is even possible for a person to be desperately unhappy or "maladjusted" in his own eyes while behaving quite acceptably in the eyes of society. Adjustment or maladjustment is not so much a biological problem as a social or moral problem of values, thinking, believing, or perceiving. As such, it can never be defined so as to become the prerogative of any existing group of practitioners.

The terms "illness," "sick," "health," "hygiene" and their further differentiations are prejudiced words. Having grown up in the science of medicine, they carry medical connotations in spite of the intent of the speaker. Their use in defining the functions of our profession produces misunderstanding and confusion. It seems likely we would be well advised to avoid their use altogether in writing legislation and attempt to express our meanings through our own terminology or by the use of words having less strongly established interpretations.

WHAT IS PSYCHOTHERAPY?

No problem in licensing has proven to be a greater bone of contention than the matter of psychotherapy. Although everyone has his own private opinion of what psychotherapy is, no one has yet come forward with a definition of psychotherapy sufficiently precise to stand in a court of law. Like many of our common terms in clinical psychology, the term "psychotherapy" has come to us from the practice of medicine and is often regarded by some members of that profession as a kind of private preserve. In our own profession we have a number of schools of psychotherapy but nowhere a usable definition.

As originally used in medicine, the term "therapy" implied a situation in which the doctor did something to or for his patient. The patient came to the doctor because the doctor "knew." He expected the physician to know more about his complaint than he did himself. The relationship was one in which the doctor who knew did something to the patient who did not. This relationship works well in connection with many physical complaints. In psychotherapy, however, the problem is often quite the reverse; the patient is the one who knows and the therapist is the one who does not! One can cut out an appendix, give an injection, or prescribe a drug directly and personally with some degree of assurance and control over the outcome of such acts. In the abstract subject matter of psychotherapy, however, this is not so neatly possible. Change in behavior of the client can only occur through some change in his thinking, feeling, or believing and these are only indirectly open to manipulation by the therapist.

Attempts to define psychotherapy on the basis of what is done to the client universally fail. The embarrassing fact is that almost anything that is done to another person may be helpful or harmful, and we are unable to predict with much exactness which effect will ensue. All methods work with some people, some times. We do not seem to be far enough along in our understandings of behavior to define with much accuracy what is good for people.

Psychotherapy is not so much a doing something to a client as providing a kind of relationship or situation for a client in which he can do something to himself. Most psychotherapists agree, whatever school they adhere to, that the essence of psychotherapy is a relationship. This relationship is differently defined from one school to another, but all schools seem to agree that the basis of psychotherapy is a particular kind of personal relationship between therapist and client. Indeed, good therapists from different schools are more alike in their practices than beginning therapists in the same discipline.

The purpose of this "therapeutic relationship" is to assist the client to a more effective and satisfying way of life for himself and those about him. This means that psychotherapy is essentially a teaching relationship or, if one prefers it so, a situation designed to help a client learn. Psychotherapy is, then, a learning situation in which a therapist seeks to help his client to explore and discover a better way of life. Interestingly enough, this is exactly what education attempts to do, too. Education also seeks through a relationship between teacher and student to assist the pupil to find a better way of life. It is extremely difficult to effectively separate individual therapy from group therapy or group therapy from education. To do this with the degree of exactitude required for inclusion in a licensing law seems clearly impossible.

Many psychologists feel it is extremely important that the term "psychotherapy" should be written into any licensing law, feeling that this would assure the right of the psychologist to do psychotherapy. They feel inclusion of psychotherapy as a stated function of a psychologist and written into a licensing law would be public acknowledgment that psychotherapy is a legitimate function of psychology and would, at the same time, forestall the attempts of certain other professions to establish psychotherapy as an exclusive prerogative. This seems like a wise move when it is possible but is not really essential in view of the impossibility of defining psychotherapy. The difficulty of writing a legally workable definition of psychotherapy is a great frustration, but it is also our best protection against the possibility of restricting action by another profession. Psychotherapy cannot be restricted to any group in the absence of a clear and enforceable definition. Frustrating as it may be to some that we cannot write a precise definition, it is a comfort to know that others can't either. So long as we cannot write a definition which identifies us clearly from the rest of the citizens of our society, we cannot be picked out as the subject of special attack. It is a little annoying to lose one's identity, but a great comfort to be an American citizen.

Though we are unable to adequately separate counseling from psychotherapy, or group therapy from education, nevertheless we have not hesitated as a profession to recommend that the study of psychotherapy is properly a postdoctoral problem! This in spite of the fact that some schools of education now teach play therapy to their undergraduates. It is probably possible for us to set up standards of training and experience for persons aspiring to a particular kind of psychotherapy, such as client-centered therapy or psychoanalysis. This is possible because these schools have crystallized their conceptions and methods of approach to psychotherapy. It is difficult to see how we can justify the establishment of standards of training and experience for psychotherapy generally in the absence of a clear definition of the kind of psychotherapy we are talking about.

THE PUBLIC RESPONSIBILITY OF OUR PROFESSION

A profession seeking licensing for its membership is asking of its legislature three things: (*a*) a grant of special privileges to the profession; (*b*) the right to create a new kind of crime, to make of certain acts a felony punishable by fine or imprisonment; (*c*) the right to decide for the public what is in the public interest by means of the standards for licensing it establishes.

These are not matters to be taken lightly. The profession which assumes these privileges assumes at the same time the responsibilities which go with them. A profession seeking licensing needs to do a great deal of soul searching. Its motives must be clear and unambiguous and its concepts as exact and precise as they can be made.

We need a great deal of clear thinking and critical discussion about all of our problems of legislation. We need to recognize very clearly that legislation is the responsibility of all our profession, scholars and practitioners alike. The problems and responsibilities of licensing call for the maximum use of the very best heads we have. Secondly, we need to examine and discuss at every opportunity the concepts upon which our licensing efforts are based. These are not simple problems and their ramifications extend far beyond today's boundaries. We cannot afford to become the prisoners of our own fuzzy thinking or the victims of our own astigmatism. We need the clearest possible vision we can muster to assure that decisions made in licensing are truly in line with public interest, on the one hand, while supplying maximum room for our own growth and development, on the other.

Finally, we need to clarify our concepts in order to be able to communicate within our profession and outside our profession with the public, and with our respected colleagues in adjunctive professions. Communication, however, is the responsibility of the communicator, not the "communicatee"! If we are unclear as to our concepts or naive in our understanding of problems, we shall almost certainly earn the impatience and disrespect of those with whom we most need to communicate. The discussion of problems and concepts in this article is by no means exhaustive or accurate. The intent has been to raise problems rather than settle them. Our problems are not insoluble, but the more persons whom we can induce to tackle them, the more quickly we are likely to come to solutions mutually enhancing to the public interest and the advancement of our own profession.

SOME LEGISLATIVE AND LEGAL PROBLEMS OF PSYCHOLOGISTS

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As psychologists flood over from laboratories and classrooms into private offices, medical institutions, and other organizations, many legislative and legal problems confront them acutely for the first time. The arena into which counseling and clinical psychologists particularly are moving is governed to a much larger extent by broad social policies expressed through laws, institutions, and organizations, than psychologists have encountered in the past. Laws already passed, interpreted, and enforced on behalf of the general public and other professions are newly discovered to apply to these booming fields of psychology. As a result, the need grows for distinctive legislation both to modify the legal *status quo* now affecting, though not originally intended for, our profession; to help bulwark our profession and the general public against malpractice; and to provide for the highest possible standards of psychological practice.

This article will attempt to place our present problems of legal recognition in the perspective of the history of occupational licensing generally, to discuss the most important areas of contact with other occupational legislation, and to suggest the nature of certain other legal problems with which we are becoming most involved. With no pretensions at being comprehensive or original, a review will be made of some laws and court decisions affecting psychologists.

OCCUPATIONAL LEGISLATION IN THE UNITED STATES

Along with the many other birthpangs of becoming a useful, socially responsible organized profession, psychology is now faced with the problem of legislative recognition and control. In the main, this problem so far has been subject to our own control. We have been actively seeking status and control of standards, rather than primarily reacting to the threat of quackery or of controls suggested by others, and it is this aggressive action that seems to bother a thoughtful group in our profession. Our action, they fear, may be premature and provoke strong reaction against us when we are poorly prepared to cope with it. Action now, they say, stems from a desire for self-aggrandizement which does not square with the insight and forbearance of mature behavior. We are asked to defer immediate satisfactions in favor of the better legislation which can be sought when our practices and standards are better crystallized, when our experience with existing varieties of legislation is richer, when our interprofessional relationships have developed clearer and more satisfactory forms.

This conflict, between what the state organizations actually are doing and what some psychologists are warning against, is not new in psychology nor in the development of other professions. The discussion of legislation by state psychological organizations had gone on for many years before it burst forth in the late forties and early fifties in a plethora of legislative discussion, proposals, and laws. It is hazardous to try to state exactly in any one month how many state legislatures have passed or are considering laws regulating the practice of psychology. Perhaps the flood has reached its crest; perhaps the critics of present legislative efforts are right. The history of occupational legislation in the United States suggests, however, with rare exceptions, that state legislation once it is under way grows stronger as organization strength increases, wanes only as usefulness of professional practices or structure to society declines, and extends eventually to most states.

Practically always, a profession seeks legislative recognition in the name of the public interest though legislators often suspect it is mainly for private advantage. Aptly put, "This apparent contradiction, of course, is characteristic of the unending effort in a democracy to reconcile freedom and regulation, private interests, and the public interest. . . . A danger in modern democracy is the

[1] Chairman of CSPA Legislative Committee, 1952–53.

threat of overthrowing the equilibrium either by excessive emphasis on governmental regulation on the one hand or by the irresponsibility and inequalities of completely unregulated freedom on the other hand" (6, p. 1).

At least 75 different professions are now controlled in some way by the 48 states. There is an average of 25 occupational control laws per state, covering such groups as guide-dog trainers and horseshoers, as well as better-known ones. Psychology seems late in the parade and perhaps more sensitive to its motivations than the other occupational groups.

The following outline of the history and problems of state occupational legislation has been summarized from (6):

The Council of State Governments lists these accepted governmental responsibilities as reasons for occupational legislation:

a. to insure adequate competence among those serving the public;
b. to protect the public from dishonest practices;
c. to protect life, property, and public security;
d. to provide efficient avenues for redress of grievances against malpractice;
e. to see that high standards are maintained and advanced.

The criticisms of the effects, perhaps at times even purposes, of the legislation are that:

a. they may unduly restrict entrance into the occupation;
b. they may restrict competition and, in effect, artificially raise the prices;
c. they may incorporate the particular interests of private associations into administrative regulations, giving the status of public law to private rules;
d. they may inhibit the development of new techniques which are in the public interest.

Licensing has been generally used by the state legislatures and upheld by the courts as an effective method of regulating occupations to protect the public interest. The courts have been lately devoting themselves mainly to defining boundaries between occupations and in reviewing administrative decisions of licensing agencies.

In the Middle Ages the guilds of merchants and craftsmen were paralleled by professional associations which emerged with secularization. Apparently they were fairly effective in controlling their occupational fields and obtaining legislative sanction for their rules. The guild system generally broke down under the impact of the commercial revolution, rationalism, and laissez faire movements, but the professional guilds continued to maintain themselves.

These professional associations did not transfer, however, from Europe and England to America. The university training that had been their base in the Old World was succeeded here by the apprenticeship system. Lawyers were regulated from early colonial days, but legislation governing physicians did not come until medical societies were organized and sought it toward the end of the eighteenth century.

Not until the nineteenth century did the concept of the modern professional association expand from law and medicine to established and new occupations alike, under the impact of technological progress and social revolution. But while the associations grew, the legal power of the professions to examine and license met with a reaction in the first half of the nineteenth century. Not only did regulatory legislation fail to expand but practically all existing restrictions on the practice of medicine and law were actually repealed. Free enterprise had become the prevailing mood, and new frontiers demanded more practitioners quickly.

By 1900 the professional associations themselves had brought more stability to the training, ethics, and practices of their members, and the pattern of state regulation began to take its present shape. The first quarter of this century saw the greatest expansion in licensing statutes, while more recent years have seen trends toward centralization of licensing in single organizations, compulsory licensing instead of optional certification, the raising of qualifications, and the inclusion of ever more occupations.

About three-fourths of all occupational licensing statutes require that all board members be licensed practitioners in the field being regulated. The exceptions consist mainly of fields regulated by boards whose members are higher in the occupational hierarchy, as dental hygienists licensed by dental boards. There is little legislative or executive control of boards. Few have public members.

Common provisions of occupational licensing laws cover (*a*) examination, (*b*) issuance of license, (*c*) withdrawal of license, which courts have held is a property right which can be revoked only after fair hearings, (*d*) enforcement, generally only after complaints, and (*e*) approval and supervision of schools.

Examinations, commonly prepared and graded by individual board members, are required in most states. National examinations are growing in use and are already strong in accounting, medicine, dentistry, and nursing. "There is much dissatisfaction with the examining process as it is conducted by most licensing boards," often on the basis of the irrelevance of the material to important applied situations. While qualifications in the better established occupations are similar from one state to another, others vary widely and reflect primarily intraprofessional disagreement. Reciprocity depends mainly upon uniformity of requirements; to forestall national intervention to reduce interstate barriers, leaders in many occupations have worked to facilitate reciprocity among the states.

Criteria suggested for deciding whether legislative regulation is desirable are twofold—professional and public welfare. They include (*a*) that the profession be a specific socially necessary one, requiring special known competences and knowledge, and including a formal association setting its own standards; (*b*) that it be distinguished from other associations in directly affecting the public health, safety, morals, or general welfare. Voluntary certification seems sufficient when the public welfare is not threatened.

LEGISLATIVE RECOGNITION OF PSYCHOLOGY

The years of consideration and debate that preceded the passage of the present psychological legislation are belied by the recency of the passage of the first law. Connecticut passed the first law in 1945, Virginia followed in 1946, Kentucky in 1950, Georgia and Minnesota in 1951, and Maine and Tennessee in 1953. Four provide for certification, three for licensing. In addition, Oklahoma regulates psychologists in its medical legislation.

Psychology is one of the latest of the recognized professions to enter the legislative field, and is in about the same stage of state coverage as the optical, watchmaking, and physical therapy occupations. It is encountering the advantages of precedent and stability in regulatory practices generally as well as disadvantages of public unconcern with the subject, some irradiated reaction really directed against occupational groups seeking legislative recognition which are of dubious importance to the public health or welfare, and the jealous prerogative-guarding of already licensed groups.

In a recent survey conducted by Stanley S. Marzolf for the Legislative Committee of the Conference of State Psychological Associations, 13 states, besides the 7 having laws already, said they were working on psychological legislation. A number have introduced laws into their legislatures. State psychological associations have so far voted 21 to 0 in favor of a resolution urging the APA and CSPA to extend all possible aid to state associations seeking legislation to accredit psychologists, whenever necessary to protect the public interest.

Since several major legislature attempts have been defeated, however, and medical opposition is becoming increasingly mobilized, perhaps there will be no flood of new laws. A more gradual process seems likely until public pressure mounts or medical opposition lessens. This relatively quiet period provides good opportunity to consider professional and public needs to be met by legislation, and the best specific forms for the legislation to take. Unless there is some national-level perspective, guidance, and pooling of effort soon, it seems likely that psychology will find itself in several years—if not already—with an unwieldy variety of state legislation which confuses the public about standards of qualification and practice. At such a time, direct national intervention by public or professional groups might well be both more necessary and more difficult.

LEGAL RELATIONSHIPS TO MEDICINE

Legislation of other occupational groups, which affect the practice of psychology, is also of considerable importance here. The main point of contact psychology has with existing legislation is with medical licensure laws. In 27 states, medical legislation specifically applies, or has been interpreted by courts to apply, to the treatment of both mental and physical afflictions.[1] In 9 others, restrictions on who may treat "diseases," or similarly broad terms, may or may not be considered applicable to both mental and physical conditions.[2] Twelve states have medical licensing laws which are specifically inapplicable either to the treatment of mental ailments or to the use of mental means of treatment (2).[3] The Minnesota medical licensing law states, for example, "Provided this section shall not apply to . . . persons who endeavor to prevent or cure disease or suffering exclusively by mental or spiritual means or by prayer."

The ranks of the 27 states presumably barring mental treatment to groups not licensed under medical practice laws and the 9 "doubtful" states should probably be reduced by those states which now have legislation giving recognition to psychology. This makes the treatment of mental conditions or the use of mental treatment by psychologists likely to be compatible with medical legislation in 16 states, likely to require new legislation or court action for psychologists to clarify their entitlement to practice psychotherapy in 25 states, and of unknown status in 7 states.

In their review, Beutel and Rice summarize the situation of the psychologist in relation to medical licensing legislation this way: " . . . it seems evident that no statute defines with clarity the type of mental afflictions which licensed physicians alone may treat. Indeed, the absence of reported decisions regarding the unauthorized treatment of mental afflictions may be contrasted with the assiduous efforts of law enforcement agencies in

[1] Calif., Colo., Del., Ga., Idaho, Ill., Ind., Iowa, Kans., La., Md., Mich., Miss., Mo., Mont., Nebr., Nev., N. H., N. M., N. D., Ore., R. I., S. C., Tex., Utah, Va., Wyo.

[2] Ala., Fla., N. Y., Pa., Vt., Ariz., Conn., Ky., W. Va. (also D. C., Hawaii, and Alaska).

[3] Maine, Mass., Ark., Minn., Ohio, Tenn., Okla., S. D., Wash., N. J., N. C., Wis.

prosecuting masseurs, beauticians, and spiritual healers whose services were believed to constitute the treatment of physical afflictions" (2, p. 478).

Basic science statutes of at least Arkansas, Oklahoma, Tennessee, and South Dakota have wider applicability than the medical licensure laws of those states, and bring into question the applicability of the term "healing art" to psychotherapy. Florida, Colorado, Kansas, Michigan, and Texas include treatment of "abnormal . . . mental conditions" under their basic science statutes. Oklahoma law, in an original way, forbids the treatment of human ills except by a person practicing pursuant to his license. Since psychotherapy is not specifically licensed, it may be held either that no one can practice psychotherapy, or that a license for any occupation may permit the licensee to practice psychotherapy (2).

While the above discussion of medical legislation bears primarily on the work of clinical psychologists who do psychotherapy, it also has implications for other psychologists. In its *Newsletter* of November, 1952, the American Psychiatric Association states, "The therapeutic procedures used by a psychiatrist include . . . occupational and recreational therapy. . . . The selection of appropriate methods of treatment for an individual patient depends upon proper differential diagnostic evaluation initially and during the course of treatment. This demands a broad medical and differential background." This medical organization may even question the legal status of psychologists unsupervised by physicians doing, for example, occupational, educational, or marriage counseling with persons suffering from nervous or mental disorders.

STATUS OF EXPERT TESTIMONY

All psychologists are further affected by legal decisions governing the giving of expert testimony. In most states, apparently, only physicians are permitted to render a direct expert opinion of sanity or psychosis in a person, although a psychologist can usually present technical evidence, and can give an opinion like any nonexpert layman can. Specific opinions or data as an expert on mental or emotional disorders can sometimes be given by the psychologist under specific provisions of laws governing such determinations as sterilization and adoption.

The limitations on expert testimony by psychologists are not immutable, however. The courts constantly modify their rules in reacting to newly accepted tools and knowledge of the sciences. The criteria for acceptance are primarily the proofs of validity and acceptance by a profession, as adjudged by the courts. Presumably if our psychological tools have sufficient dependability and accuracy for the present legal determination of mental disorder, we will find the courts ready to listen to our plea for stronger status for our findings. The next step then (or now, perhaps) is for us to set about as effectively as possible to present our case to the courts through our professional organizations entering relevant court cases as friends of the court to enlighten it regarding our contribution (4).

PRIVILEGED COMMUNICATION, MALPRACTICE, AND LIBEL

Privileged communication is another legal issue of increasing importance to psychologists. The sanctity of the attorney-client relationship was apparently the first professional one to be widely accepted legally, and goes far back in the common law of England. It grew out of court decisions rather than legislation. Similarly, the clergy-parishioner relationship found protection from the courts without legislation. While both lawyers and ministers established their professional privilege of confidential communication by withstanding court pressures, physicians did it through both court action and legislation (4).

The grounds for the privilege were and are always the same, the necessity that the client's revelations be treated completely confidentially if they are to be adequate for the practitioner to be able to help him. The privilege belongs exclusively to the client and extends only to the practitioner he has engaged. It does not apply to his relationship with an expert of the court or to the professional person of an opposing side in court to whom he may voluntarily submit for examination. Nor is it unlimited in his relationship even to his own physician, who must report gunshot wounds to proper authorities, for example, or to his attorney who may have to reveal his intention to commit a crime (4).

The liability of psychologists to suits for malpractice also is attracting increasing attention, par-

ticularly among clinical psychologists in private practice (1). The liability also extends to institutional employees in city, state, and federal service although they may receive some special protection from their organizational status. Psychiatrists generally obtain their malpractice insurance in the same way, and at the same cost, as physicians, despite a much lower rate of suits, and it seems likely that clinical psychologists can obtain low rates. It would seem a most useful step for the APA to sponsor a survey of all cases of lawsuits involving psychotherapists to see what basis professional anxieties in this regard—and proposed rates —have in the reality of past experience.

Suits for libel could cause more difficulties than those for malpractice. Libel laws have clear and well-founded application to the kind of information psychologists often speculate about regarding their clients, although the extent of damages may be hard to prove. A businessman who dictated a libel to his secretary has been successfully sued, and anyone coming to know any privileged communication of a client is subject to the laws governing libel (4). Think then of the implications of a psychologist who tells a colleague not associated with him on the case or a secretary that Mr. So-and-So is probably a sexual deviate on the basis of a test score with a validity of say .60. Fortunately our development of a code of ethics has pinpointed the problem and suggested the solution.

There are many areas of law other than those discussed above which affect psychological practices. An attempt has been made here to cover the more important and obvious of these contact points. Other peripheral points can be suggested, while many more will develop as we grow in professional competence and social usefulness. The privileges accorded other professions are just now beginning to be extended to psychology, client tax deductions being an important example. Many others, such as exemption from jury duty,[4] appointments to governmental boards and committees, and status on governmental boards and committees, grow slowly as a combination of what the public spontaneously accords to us for our services, and what we get for ourselves. Other professions besides medicine may feel threatened by our growth and extensions, like optometry, which in some cases limits our use of visual tests.

[4] The author recently tried to devote himself to this duty of citizenship but wasted two weeks being excused from panels because defense attorneys assumed he would be unduly sympathetic to plaintiffs.

SUMMARY AND CONCLUSIONS

The history of occupational legislation is impressive in its close relationship to social structure and needs. Psychology now is just one of many professions finding state legislation the most convenient and serviceable instrument for protecting both the public and the profession against malpractice and for improving standards of practice. There may be better ways of achieving these goals, but if there are, we will have to pioneer them.

The danger of just letting state legislation grow as it may is twofold: the public may become more confused about our practices and standards, and the profession may be setting present divergencies and standards in various molds which will be difficult but necessary to standardize later on. Eventually, uniformity in state legislation has had to be sought by other professions. We can avoid considerable difficulty later by foresight and some attempt at coordination now, perhaps through the medium of a joint APA–CSPA committee attempting to set effective minimum national standards. State organizations as such must be brought into the planning to make effective the present relatively uncoordinated efforts of various APA committees, and the activities of state groups which are setting the basic legal pattern. The experience of the various state associations in seeking and administering legislation is now being summarized by the CSPA Committee on Legislation. Agreement on recommendations for good legal form and on good professional practices and standards should be possible within a broad and flexible framework which would not threaten the independence of individual state associations.

The major obstacle to state legislation now is the opposition of medical groups. The individual states differ greatly in the legal limitations imposed on the practice of counseling and psychotherapy and in the present attitude of their medical organizations toward psychologists. Whether we can develop generally amicable interprofessional relations, or whether we will have openly to fight strong set opposition throughout the country is a moot question now (5).

Many state medical laws already on the books, but not enforced, may limit the present practice of counseling and psychotherapy by psychologists.

Without positive legislation giving recognition to psychologists and their activities, the negative provisions of existing laws will remain a potent threat to psychologists using "mental" treatment or counseling with persons having "nervous" disorders. Court action and decisions could resolve the issue, but the direct involvement of the medical profession with its present legislation seems likely to make the procedure costly, drawn-out, and not readily resolvable. In this area, legislation would seem to be the more efficient and economical procedure, using a definition of psychology, perhaps something like the New York legislation attempted (3).

The psychologist's right to privileged communication, on the other hand, may well be more efficiently established through court decision than legislation. Then, if court decisions and appeals were adverse, legislation could be sought. Court action in this area should threaten no other professions and has ample precedent as a mode of establishing the privilege. It would be opposed perhaps only by the legal profession which is generally against procedures that lead to the suppression of evidence.

Psychologists need to become acquainted with existing libel and malpractice laws and rulings. Certain legal precedents should affect the way we do things such as maintaining records or recording treatment. Additionally, of course, the newly developed APA code of ethics becomes an essential professional guide and protection, which there must be professional machinery to enforce, and which will then also give us added legal strength in courts.

SUGGESTIONS FOR A LEGAL PROGRAM

1. That a joint APA–CSPA committee be formed to work as closely as possible with all state psychological associations in trying to develop minimum and guiding standards for state legislation.

2. That when state legislation is sought, it attempt to clarify the practice of counseling and psychotherapy in relation to the provisions of the medical laws of the particular state involved which govern "mental" treatment or the treatment of "mental" patients.

3. That the state psychological associations, and perhaps the APA, be prepared to enter into appropriate cases as friends of the courts, to attempt to establish the psychologist's right to privileged communication and to give certain kinds of expert testimony.

4. That the APA sponsor a survey of the scope and implications for psychologists of existing libel and malpractice laws and decisions, and relate them to legally strong and ethical behavior.

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HOW MANY PSYCHOLOGISTS WILL BE AFFECTED BY LEGISLATION?

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CERTAINLY a relevant factor in consideration of the desirability of legislative action by psychologists is the number of psychologists who are most likely to be affected directly by such legislation. There are serious difficulties involved in estimating the representativeness of the samples and the accuracy of the data in most of the reports at hand. They constitute, nevertheless, the best information on which to proceed.

Most of the discussion of legislation has been in connection with clinical psychologists, particularly those engaged in psychotherapy. It is important to recognize, however, that many of the same problems of uncertain legal status and unclear relationships to other professions arise in other applied areas. Thus, the number of people in industrial and in academic service positions is also relevant.

One source of information is the preliminary analysis of the questionnaire sent out jointly by the APA Central Office and the National Scientific Register (4). Questionnaires were sent to the 8,600 members of the APA in 1951 and replies were received from 80 per cent. Analysis to date indicates that the sample has no systematic bias. Sanford reports some figures which bear on the training of individuals most likely to be involved by legislative action. While only 22 per cent of the teachers are without the PhD, nearly two-thirds of those employed in nonfederal hospitals and clinics, two-thirds of those in school systems, nearly half of those employed by business and industry, and over one-third of those in private clinical practice have no degree beyond the master's. Of the approximately 4,000 members of the APA who report themselves as clinical psychologists, 3,000 work outside academic settings, most of them in clinics or hospitals. Of the 4,000, 300 are in private practice. This is about 4 per cent of those responding. About 46 per cent of the clinicians have the PhD. Of those without the PhD, 70 per cent say they plan to get it.

The report of the Committee on Psychotherapy of Division 12 provides us with one approximation of the extent to which members of the APA are involved in psychotherapy or counseling or both (2). The committee sent a questionnaire to all members of the APA in 1948, asking whether they were engaged in psychotherapy only, counseling only, or both. There were replies from 64 per cent of the membership, and of these 69 per cent gave one or more affirmative answers. A more detailed questionnaire was sent to those who responded affirmatively one or more times. Fifty-five per cent of those who were sent the second questionnaire replied. The data presented in Tables 1–4 come from this second sample. The results are given for the total group of 1,302 respondents and separately for a therapy group of 662, comprised of those respondents who devote 20 per cent or more of their time to psychotherapy or counseling.

TABLE 1

Principal place of employment of therapy group and total group

Place	Therapy Group		Total Group	
	N	%	*N*	%
Private practice	44	7	73	6
University	164	25	478	36
Private hospital	36	5	36	3
Mental hygiene or child guidance clinic (non-VA)	65	10	94	7
School system	34	5	75	6
VA installation	112	17	169	13
Vocational guidance bureau	25	4	37	3
Not classified	192	29	347	26

Clower's survey (1) on the geographical distribution of the membership of the APA in 1950, together with a type of occupational breakdown, provides additional data. He reports 2.86 per cent of APA members are engaged in private practice. This figure corresponds closely to the extrapolated

TABLE 2

*Highest degree held by therapy group and total group**

Degree	Therapy Group		Total Group	
	N	%	*N*	%
AB, BS	23	4	35	3
AM, MS	276	42	459	35
PhD	308	47	706	58
PhD and MD	7	1	10	1
AM and MD	—	—	4	—
Other	44	7	73	6
No answer	10	2	26	2

* Overlapping is due to combinations of degrees not specifically listed as combinations (e.g., "other" and PhD, etc.). The degrees (i.e., M, PhD) are not necessarily in psychology.

percentage suggested by the Division 12 report and to the 4 per cent given by Sanford. His data also indicate that the distribution of private practitioners over the country is far from uniform, ranging from none out of 100 APA members in Kansas to 5 per cent of the 1,417 in New York.

Our fourth source of information comes from Rogers, whose study of the fields of interest expressed by psychologists in the 1948 and 1951 APA directories indicates that "two out of seven APA members have, as one of their fields of special interest in psychology, some phase of the practice of psychotherapy as operationally defined in this study" (3, p. 49). The general indications are that this interest is increasing and that descriptions of current occupational placements are likely to be underestimations of future placements.

TABLE 3

Present position held by therapy group and total group

Position	Therapy Group		Total Group	
	N	%	*N*	%
Chief psychologist, director, chief of psychological service	98	15	194	15
Department chairman, professor, associate professor, assistant professor of psychology	103	15	339	36*
Professor, associate professor, assistant professor of education	9	1	42	3
Instructor or lecturer	24	4	60	5
VA trainee	28	4	36	3
Psychologist in Civil Service	11	2	15	1
Therapist in private practice	21	3	22	2
Consultant	27	4	31	2
Clinical psychologist or psychologist	164	25*	209	16
Senior psychologist	10	2	31	2
Vocational or educational advisor	9	1	9	1
Counselor	48	7	57	4
Remedial worker	1	—	1	—
Psychological intern or extern (non-VA)	1	—	1	—
Personnel psychologist, personnel consultant, director of personnel	11	2	21	2
Industrial psychologist	—	—	6	—
Dean, assistant dean	13	2	30	2
Director of research, research psychologist, research fellow	11	2	34	3
Instructional position other than psychology	10	2	20	2
Other	53	8	107	8
Omitted	21	3	39	3

* Modal occupation.

TABLE 4

Nature of training of therapy group and total group

Training	Therapy Group		Total Group	
	N	%	*N*	%
"Are you largely self-taught?"				
Yes	238	36	547	42
No	333	50	563	43
Qualified	42	6	92	7
Omitted	50	8	100	7
"Do you ever feel any significant lacks in your training for psychotherapy or counseling?"				
No	150	23	254	20
Yes*	512	77	1048	80
"Would you be interested in receiving further training?"				
No	79	12	216	17
Yes**	583	87	1054	81
Omitted	7	1	32	2

* The original questionnaire responses elaborate the nature of the deficiencies that were mentioned. The deficiency most frequently mentioned, by 23% in the therapy group and 26% in the total group, was "Insufficient or inadequate supervision or consultation (including evaluation of own performance)."

** The original responses specify the kinds of further training desired. The specified additional training most frequently mentioned was "work with experienced therapists or supervised work." This was indicated by 21% of the people in both the therapy and the total group.

By design, the data from these four sources have been presented without comment. Experience has indicated that these figures have been used to document widely differing positions on legislative matters. The final interpretation should be given by the total membership. Regardless of what interpretation is given, the following conclusions seem warranted: There is a large segment of the APA population involved or potentially involved by legislative matters; although the percentage is probably small, there is a significant number of APA members currently operating independently, either as clinicians or in industry, whose current legal status and professional relationships are uncertain; the number of professional psychologists in these applied areas is steadily increasing.

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LEGISLATION IN VARIOUS STATES[1]

California

Although committees of the California State Psychological Association have been working for the past four years on a bill to license psychologists, circumstances resulted in no bill being introduced by this association into the 1953 session of the Legislature. Three bills to license psychologists, sponsored by widely divergent groups, were introduced. Each of these was either unduly restrictive or was designed to license inadequately trained persons. California psychologists were active in informing legislative committees of the shortcomings of these bills, and none of them was passed. The Assembly Committee on Government Efficiency and Economy, which heard two of the three bills, recommended that a legislative committee be appointed to draw up an adequate bill for presentation to the 1953 session of the Legislature. The California State Psychological Association will work with this committee.

CLARE W. THOMPSON
VA Hospital
Palo Alto, California

Connecticut

In Connecticut the law for the certification (not licensing) of psychologists went into effect July 1, 1945. Since July, 1947, when the "grandfather" clause expired, the requirements for certification have been: (1) a PhD in psychology or education from a recognized institution; (2) one year's experience in the practice of psychology; (3) passing of an examination in a chosen field.

Inquiries concerning certification are generally received by the secretary of the board or referred to her. A copy of the law is sent to the person inquiring and, if from a preliminary check it appears as if certification is possible, an application form is sent. When the form is received, together with the registration fee of $15, the references are followed up. If the institution from which the PhD was received is not one which has already been certified by the Commissioner of Education of Connecticut, his certification of the institution is obtained. When all information is available, the case is presented at a physical meeting of the Board of Examiners and the person's eligibility for admission to an examination is passed on.

In the application the person has indicated the branch of psychology in which he is chiefly interested and a person in that particular field who has already been certified by the board is asked to draw up a suitable examination. The examination is then given and scored by a qualified person and the applicant is awarded or refused the certificate accordingly.

Ninety-three persons have been certified and three applicants are pending.

Probably the chief value of the law in Connecticut has been education of the public. In 1950 a list of those who had been certified was published in an attractive pamphlet and fairly widely distributed to schools, hospitals, colleges, and industrial firms. Since that time the pamphlet, brought up to date with a typewritten list, has been sent out on request. Such requests have been fairly frequent and a considerable number of institutions have checked with the board to ascertain whether a person whom they were contemplating hiring from outside the state would be eligible for certification.

BOARD OF EXAMINERS OF PSYCHOLOGISTS
OF CONNECTICUT
WALTER R. MILES, *Chairman*
WESTON A. BOUSFIELD
MARION A. BILLS, *Secretary*

Florida

In 1951 our licensing bill never came out of committee in the Legislature. They offered to put us under the State Department of Education, but we rejected the offer for quite obvious reasons.

At the 1952 meeting of the executive committee of the Florida Psychological Association and later at the annual meeting in Miami in April, 1953, it was decided not to push for licensing or certification until the next biennial meeting of the State Legislature in April, 1955. In the interim our committee on ethics and standards will be responsible for lay-

[1] Not all states which have legislation or are contemplating legislation are included here. The article is made up of reports submitted by representatives of various state psychological associations in response to an invitation to prepare an account of the legislation or legislative efforts in their states.—Ed.

ing the groundwork of a campaign during 1954 and 1955 for securing licensing. We have a good bill written; we need money and people to push it closer to adoption. We need control badly; a perusal of our classified section of the telephone directory is ample proof of this.

ROBERT M. ALLEN
University of Miami

Georgia

The act, the board, and some statistics. The Georgia state law "making provision for the licensure of applied psychologists" is titled an *Act Creating and Establishing a State Board of Examiners of Psychologists*. The board consists of three members who are appointed by the governor, normally one each year for a term of three years, from a list of qualified members of the Georgia Psychological Association, and confirmed by the State Senate. "One member shall be chosen from and shall be member of the faculty, with the rank of assistant professor or above, of the accredited colleges and universities in the State, and shall be primarily engaged in teaching and/or research in psychology, and two members shall be licensed applied psychologists or qualified for licensure under the terms of this Act."

The present board, consisting of Austin S. Edwards, Hermon W. Martin, and Lawrence W. Ross, has served approximately two years and has found itself functioning as a well-balanced team, with all decisions so far unanimous, after pro and con discussions at times. Two of the board members qualify both as academic and as applied psychologists, and have for more than 20 years been identified with the development of scientific and professional psychology in Georgia, one being from the state university system and one from a leading private university. The third member of the board is probably the first full-time applied psychologist in Georgia on the staff of a large industrial organization.

The initial official session of the Board of Examiners of Psychologists was held in July, 1951, and eight sessions have been held altogether, or one per quarter, though it is not required by law to meet more than once per year. The work still stays ahead of the board so that at the close of each day of meeting there are applications and agenda items not reached, and each time it is thought surely there will not be so much to do next time.

The period of licensure of applicants with subdoctoral training and without formal examination is now about over, except that present applicants may complete qualifying experience and training within another year. The following tabulation presents a summary of the results of operation during this period:

Applications received	109
Applications processed	100
Licenses granted	60
PhD (32), EdD (2), PhD equiv. (2) with at least one year of qualifying experience in applied psychology	36
MA (16), MS (2), MEd (2) with three years qualifying experience	20
AB (2), BS (1), PhB (1) with at least thirty quarter hours' concentration in psychology and five years' appropriate experience	4
Applications rejected	20
inadequate training and/or experience	14
out of state and no intention of practicing in Georgia	6
Applications continuing deferred	20
for transcripts of training and/or experience	10
until they return to state	10

About ten of the now licensed and five of the now rejected were previously on the deferred list. Those now licensed from the previously deferred applicants have either completed additional suggested course work or the doctorate degree or have acquired more experience under conditions that could be evaluated as qualifying. Of the applicants rejected from the beginning because of being out of state, two presented the MD degree along with the MA in psychology. (One of these seemed to have three MA degrees, and to be on a hospital staff.) Of the in-state rejections because of inappropriate training, two were naturopaths or physiotherapists, one of whom presented a PsD, saying that psychological advice to patients was found to be helpful. Another such rejection was a minister who apparently wanted to be sure he was within the law in doing his counseling of parishioners.

Of those at the doctorate level who have received licenses the great majority are connected with educational institutions or with governmental agencies and simply desire to remain in position to supplement incomes or to render needed consulting services. Several of these individuals the board specifically encouraged to apply for license. Only about one-fifth of these doctoral licensees are in full-time private or professional agency practice. So

far as is known at this time none of those licensed without doctoral training or its equivalent is engaged in full-time private practice on his own. Several are in full-time practice with either licensed PhD's or with psychiatrists. The great majority are with public service agencies, and one or two are school counselors who have more psychology training than is required by the schools and who have for some years been called upon to do occasional psychometric evaluation jobs aside from their regular employment. The board saw no need to block the services these individuals have been acceptably rendering.

General problems and policies. The Board of Examiners feels that it has had rather smooth sailing in administering the Georgia law since its passage in 1951. Everyone concerned around the Capitol seemed to welcome the psychology board members. Governor Talmadge, the secretary of state, the entire staff of the joint secretary of examining boards, an assistant to the attorney general, and even the comptroller of the budget received us, as we had occasion to deal with them, not just politely but very cordially. And what is very important to the board our Georgia Psychological Association has been fully cooperative and appreciative. Also, we have had the expressed good will and assistance of some of our medical and psychiatric friends. All of these are heartening and stimulating to the board in its labor of love.

The first and most general problem confronting the first State Board of Examiners of Psychologists, after having been sworn in by the governor to administer an all-out, full-coverage licensing act for practicing applied psychologists, was that of becoming thoroughly conversant with the law as written, understanding it from the viewpoint of legalistic interpretation, as well as its possible professional values, and determining the power and duties of the board in operation. To this end the board spent the first half of the first day of official session together with an assistant to the joint secretary of examining board and an advisor from the attorney general's staff who was assigned to us upon request. Together we went over the act section by section and then took an over-all view of the interacting sections.

A major question put to the legal counsel was: "Are we, according to this act, licensing merely the name, or also the function of practicing applied psychology?" Citing several widely dispersed sections of the act, covering *use of title, the practice of applied psychology, definition, and practice of applied psychology without license prohibited, exceptions,* our legal counsel rendered the opinion that we are licensing both the title "applied psychologist" and the function or practice of applied psychology as defined, under whatever name.

The exceptions noted under the section prohibiting practice without license, though not found in this form, may be listed as follows:

Persons in the employ of, or serving for, (*a*) an established and recognized religious organization; (*b*) an established and recognized social welfare agency; (*c*) organizations engaged in business, commerce, or industry; (*d*) federal, state, county or municipal agencies; (*e*) chartered educational institutions; (*f*) licensed individuals.

These exceptions apply to the activities and services of individuals within their salaried employ so long as such employed or in-training individuals do not reach out to render service for private fees, which imply the professional practice of psychology, without supervision of licensed individuals.

In connection with the above decision as to what is being licensed and prohibited without license, and the specified exceptions thereto, several questions which could constitute problems readily arise. What about personnel and employment bureaus which offer to individual clients such services as aptitude and interest analyses, and to patron employers a selective screening of personnel on a fee or contract basis? And what about local lay persons engaged by some out-of-state personnel selection agency to administer test batteries for a business or industry within the state, or even what about such batteries being sent in directly to some member of a firm to be administered and returned for scoring and interpretation by such outside agencies? And what about experienced persons well supported by the community who conduct such needed services as family relations institutions, providing individual and group analyses and counseling, but who do not qualify technically for licensure as psychologists? And what about the retired teachers or "visiting teachers," more recently called student counselors, from the public schools, who for years have been utilized as specialists in administering Binets and a few other standardized measures, and now because of their considered proficiency may be called upon by their former

employers or by welfare agencies to do jobs on a fee basis? There are thus problems intrinsic in a licensing law, especially in one covering all applied psychology, which are not found in a more limited law or in certification.

A licensing board could easily become meddlesome to the point of becoming a nuisance in the name of the public good. Test cases could be called which might or might not be upheld in favor of the board. The present board has in general deemed such a course unwise, at least for the early stages of the operation of the licensing act, and while the process of developing appreciation of professional psychology must still be gradual. It cannot afford to become too threatening to too many too abruptly, lest the very public whom it seeks to protect turn against it, as an aggressive child against an overly disciplinary parent. In that first interpretation session of the board which included representatives of the offices of the attorney general and the joint secretary of boards, a question was put in this area of consideration, and it was advised on a basis of experiences of other boards that we could under the law readily become so officious that many citizens and members of other professions would complain to the governor and to legislative members suggesting alterations if not repeal of our act. A member of the medical and psychiatric associations in meeting with Georgia Psychological Association committees on legislation and ethics gave similar suggestions.

Another general problem for the licensing board inheres in the latitude of its dicretionary licensing powers, although this latitude can be most helpful at times. At the close of the section of the act prescribing application for license and qualifications of candidates is the following clause: "Provided that the board may at its discretion accept satisfactory substitute training and experience in lieu of that prescribed in subsections (*c*) and (*d*) of Section 7." The subsections referred to call for the doctorate degree either in psychology or in closely allied field, if in the opinion of the board the training is substantially similar, and for at least one year of experience in applied psychology of a type considered by the board to be qualifying in nature.

The section on examination of applicants states that the board shall make examinations of applicants "at least once a year according to methods and in such subject fields as may be deemed by the board to be the most practical and expeditious to test the applicants' qualifications. The board shall require the examinations to be written or oral, or both."

The section on licensure under special conditions, the "grandfather clause," states that for a period of two years the board may waive either an assembled examination or the requirement of the doctorate, or both, if it deems such action in the public interest; and may grant a license upon payment of the required fee to any person who is of good moral character, and is a citizen of the United States or has legally declared his intention of becoming a citizen, who is qualified by experience to practice applied psychology, and who has engaged in such practice of a nature satisfactory to the board for at least three years full time, or its equivalent, within three years following the effective date of the act. No amount of formal training in psychology is called for. It is also true that it is not mandatory to license without examination in the period of licensure under special conditions.

The present board has sought to steer a middle course, to be neither too rigid nor too lax, to keep in mind always both the needs of the profession and the needs of the public, as well as the established rights of individuals. As evidenced by the tabulation of licensings, the board feels that it has been fairly successful. Also, there have been about an equal number of complaints, so far as is known, both that licensings have been too easy and that they have been too difficult. Two or three complaints from disapproved applicants have reached state officials and have been handled very satisfactorily so far as the board is concerned. The governor has simply replied that he only appointed the board members and had nothing to do with their decisions. The secretary of state has inquired of the board about an applicant by saying he had no intention of trying to influence the board's action but that he had been asked to inquire and would need to report back that he had done so.

The board has in a few instances granted licenses to individuals whom it would not have felt called upon to certify. This, however, has been done not because of pressure from any would-be influencing individuals, but rather because of the prohibiting element in a licensing law which would both deprive the public of services which would not be supplied by better qualified persons and deprive the individual of an established function which he him-

self had built up. An example of this is seen in the licensing of one or two Binet testers who would certainly not in general be called psychologists.

On the other hand, an occasional licensing may have to be granted not at all because the board considers the person desirable or that a community need would suffer without him, but because he meets the stipulated requirements, including the highest mechanical requisites of training and of experience, and there is nothing sufficiently tangible on moral or ethical grounds by reason of which he may be refused a license. In one such instance the Board delayed and deferred action for three quarters on an application until two investigation agencies could report and until letters of special inquiry were answered. These were not favorable, but neither were they tangibly unfavorable, and according to legal counsel, there was nothing to do but license and be alert.

It has been noted that the board is not issuing licenses to individuals outside of Georgia, however qualified such individuals may be as psychologists. We have not yet been called upon to license nonresidents who desire to practice in Georgia. Should such applications arise they may occasion some further problems of interpretation of the law, inasmuch as licenses to be valid are required to be recorded in the office of the clerk of the superior court of the county in which the applicant resides and the clerk is required to make a report to the joint secretary of state examining boards on December 31 of each year of licenses registered with him.

HERMON W. MARTIN
Emory University

Illinois

A bill, calling for certification of psychologists, was introduced into the 1953 Illinois Legislature. Because the bill was strongly opposed by psychiatrists in the state, attempts to have it considered in committee of the Legislature were abandoned. A committee of the Illinois Psychological Association is now working with representatives of the Illinois Psychiatric Society to find some form of satisfactory compromise legislation.—Ed.

Indiana

The Indiana Psychological Association has for many years been interested in securing legislation to license psychologists. It was originally thought that it would be more feasible and more strategic to endeavor first to secure a school psychologist's license through the State Board of Public Instruction. Many years' efforts were spent on attempting to secure such school licenses. Later when no progress was evident on school psychologists' licenses, more time and thought were given to the possibility of obtaining a law enacted by the Indiana General Assembly. In the midst of legislative endeavors, almost unexpectedly, the association was successful in securing school psychologists' licenses which are now in force (school psychometrist: a master's degree in psychology, a teacher's license and one year's experience; school psychologist: a doctor's degree in psychology, both a teacher's license and an administrator's license, and five years' experience).

In the two years prior to the General Assembly of 1947 the association voted to enter a bill to license clinical psychologists and drew up such a bill which passed through various revisions in association committees and in conference with committees of the Indiana State Medical Association and of the Indiana Neuropsychiatric Association. In spite of widespread discussion among the psychologists of the state it became apparent that there was not yet sufficient unanimity of thinking among the various branches of psychology in the state to make it seem desirable, finally, to enter the bill at that time. It was therefore voted in the first week of the meeting of the General Assembly to delay action for two years. As the meeting of 1949 drew near, repeated conferences and committee meetings had still not clarified the project sufficiently, evidently, for a number of psychologists in the state who were not involved in the rendering of psychological services but whose support was felt to be desirable. Therefore, although the association remained officially on record as actively desiring a law to license clinical psychologists, it was again voted to wait for more discussion before entering a bill.

However a bill, drawn up by others (including a country doctor who was in the Assembly) and sponsored by the Senate Committee on Public Health, was entered, a bill which would have seriously crippled the practice of psychology in the state. The chairman of the Senate committee who was eager to eliminate abuses was nevertheless very responsive to the representations of the association

that this was not a good bill. She did cause the bill to be withdrawn before it got out of committee, with the understanding, however, that the association would enter its own bill in 1951.

In the two years prior to the 1951 meeting the association was most active in drafting a new bill to license clinical psychologists which embodied the main features of the 1947 bill but which was cast in more sophisticated legal form. The Indiana University School of Law recommended a lawyer who worked devotedly with the association including participating in conferences with committees of the Indiana State Medical Association and the Indiana Neuropsychiatric Association. The lawyer refused to accept a fee for his services because of his belief that a law to license psychologists was in the public interest and was a project which he wished to support. Up to the very last of a series of conferences with the medical profession relationships seemed cordial. In a week's time between the next to last and the last conference the atmosphere changed completely. At the last meeting the chairman informed the association that the headquarters of the American Psychiatric Association had said over the long distance phone that the psychiatrists of the country were officially against the licensing of psychologists and that the psychiatrists of Indiana would therefore do everything possible to see that the Indiana Psychological Association did not get a law passed.

Nevertheless, on the basis of legal and legislative advice and in the light of the association's commitment two years before to the Committee on Public Health, the association did enter its bill with bipartisan support. The entire legislature was slanted against any new licenses, for reasons in no way connected with psychology; therefore the legislative climate was unfavorable in general for any such bill. The association's bill was not reported out of committee in 1951 but we had been assured in advance that the ultimate passage of a law was facilitated by bills having been offered in one or more sessions of the General Assembly. It was therefore felt that although little seemed to have been accomplished, some slight progress had probably been achieved by having had the bill listed and in the hands of the legislators.

By the time of meeting of the 1953 General Assembly so much opposition had been expressed nationally by the medical profession, as is well known, voiced through journals and leaflets, that once more the Indiana association, still on record as wanting a license for clinical psychologists, decided that it would be strategic to refrain from entering a bill at least until 1955. An able special committee of the Indiana Psychological Association has been appointed to make a widespread study of the present status of the licensing problem for the enlightenment of the members of the association. Next steps to be taken in Indiana and decisions as to when to take them will be based in part upon the findings of this committee which is to make its first report in October 1953.

HARRIET E. O'SHEA
Purdue University

Louisiana

At the 1952 meetings the Louisiana Psychological Association went on record as favoring legislation for psychologists and empowered the president to obtain information on this subject to be brought before the society at its next meetings. In March 1953 a panel on "Legal Aspects of Psychology" was presented. The participants were Nathan Kohn of Washington University, St. Louis, a lawyer and a psychologist; Robert A. Matthews, chairman of the department of psychiatry, Louisiana State University Medical School; and Leonard Oppenheim, of the Tulane Law School, one of the builders of the Louisiana Mental Hygiene Act. As a result of this presentation the association voted to invite the New Orleans Society of Neurologists and Psychiatrists to appoint a committee to meet with a committee named by our president for the purpose of working out legislation for psychologists ". . . to the end that the quality of our personnel and our services in this State may be improved."

IRVING A. FOSBERG
VA Hospital
New Orleans, Louisiana

Maine

In the spring of 1953 we were successful in getting the state legislature to pass a bill which creates a board of examiners for the certification of psychologists. This bill was signed by the governor and is now on the statute books of the state. The bill provides that the board shall be composed of three psychologists appointed by the governor from a list of five psychologists recommended by the Executive Council of the Maine Psychological Association. The first board of examiners has just

been appointed by the governor and has not yet had an opportunity to meet. The members of the board are Lillian H. Brush, A. Douglas Glanville, and Norman L. Munn.

A. DOUGLAS GLANVILLE
University of Maine

Massachusetts

The psychologists of Massachusetts have shown more concern than consensus about the issues of legislation. In 1947 an opinion poll of the membership of the state association showed general agreement on the desirability of state certification in some form, less unanimity on strategy and timing. Continuing study of the problem crystallized last year in the creation of a Committee on Public Relations and Legislation which has tried to assay the experience of other states and the dictates of our own situation. Current opinion is reflected in the report of the PR Committee, to the MPA membership, April 1953, which reads in part as follows:

Legal Recognition of Psychologists: . . . The PR Committee notes some indications, at the national level, of worsening relations with the medical profession, particularly psychiatry, in recent months, but finds no immediate occasion for alarm in Massachusetts. We favor a policy of "fence-mending" to enhance our relations with other professional groups and the public generally, and to improve our professional services. The ultimate desirability of legal recognition should be kept in focus, but we do not recommend the initiation of legislation at this time.

Legislation in General: The PR Committee believes psychologists have special interest and sometimes special expertness in many areas governed by State Legislation, from institutionalized programs of education, mental health care, and correction to quasi-moral issues such as vivisection, censorship, and prejudice. Occasions may arise when we should make our influence felt, e.g., at hearings on pending legislation. The Committee stands ready to organize such lobbying efforts, though we have not felt the need for action this year. We encourage the Membership to keep themselves and their Committee informed, to speak out as individuals, and to cultivate personal acquaintance with their legislative representatives.

CHESTER C. BENNETT
Chairman, MPA Committee on Public Relations and Legislation

Michigan

The Medical Practices Act of the State of Michigan is unusually broad. It defines the practice of medicine as "the actual diagnosing, curing, or relieving in degree, or professing or attempting to diagnose, treat, cure or relieve any human disease, ailment, defect or complaint, whether of physical or mental origin, by attendance or by advice, or by prescribing any drug, or by any therapeutic agent whatsoever." On April 22, 1953 the Attorney General of the State of Michigan in response to a request by the Secretary of the State Board of Registration in Medicine, ruled that "the practice of psychotherapy by non-medically licensed people constitutes a violation of this act."

While no legal action against the psychologists has yet been taken, the above ruling has galvanized the interests of Michigan psychologists in professional problems and the Michigan Psychological Association is taking steps in two directions:

1. Toward securing state certification for qualified psychologists.

2. Toward clarification of the Medical Practices Act as it relates to the services of psychologists.

At present the association activities are directed toward definition of "psychologist" as it pertains to certification and consideration of the conditions under which the association is willing to endorse independent private practice by psychologists.

WILBERT J. MCKEACHIE
University of Michigan

Missouri

The certification of psychologists appeared on the agenda of Missouri Psychological Association meetings relatively early in its history. At the spring 1948 meeting the problem of certification vs. licensing was discussed, and at the fall meeting of the same year certification was the major topic considered. Definite decisions were made concerning the direction of legislative efforts. Certification was favored over licensing, and two levels of professional competence—psychotechnician and psychologist—were to be included. A certification bill was prepared and plans were made to present it to the 66th Assembly of the State of Missouri. Although hearings were held by the Senatorial Committee of the Assembly, opposition, primarily on the part of medical and psychiatric groups, prevented the bill's presentation before the Senate. At the present time, the bill is being rewritten with various changes, including elimination of the psychotechnician level, and plans are underway to have it presented at the next session of the legislature.

H. MELTZER
Psychological Service Center
St. Louis, Missouri

New York

A bill to license psychologists was passed unanimously by both houses of the legislature in New York State in 1950, but was vetoed by the governor on the arguments of the psychiatric association that the distinctions between psychiatry and psychology could not as yet be adequately made. During the two subsequent years the Joint Council of New York State Psychologists on Legislation sought to carry on liaison discussion with psychiatric representatives—with only partial success—in an endeavor to clarify the differences in viewpoint. Last spring, as reported in the April issue of the *American Psychologist,* a bill was introduced without the prior knowledge of the psychologists, which would have made all psychotherapy a part of the practice of medicine. This bill did not come out of committee. The Joint Council is deciding in September on its legislative plans for the coming year.

ROLLO MAY
New York, New York

North Carolina

The North Carolina Psychological Association, after a number of years of study, agreed in October, 1952, to request the legislature to consider a proposal for certification of psychologists at two levels —that of clinical psychologist and of psychological examiner. The North Carolina Psychological Association secured the endorsement of the North Carolina Neuropsychiatric Association for such action; but, in January, the tentative bill that was prepared for introduction into the legislature met considerable ambivalence about support from the executive members of the Neuropsychiatric Association. It became apparent that local action from the psychiatrists was to some extent dependent upon the attitude of the American Psychiatric Association national group and this ambivalence on the part of the local psychiatrists resulted in delayed action on the part of the North Carolina Psychological Association in pushing for the consideration of the bill. For the moment, we are in the position of having agreed to move toward certification at two levels and are preparing the groundwork for cooperation with a number of interested organizations so as to be able to present the bill to the next legislature in 1955.

LOUIS D. COHEN
Duke University

Ohio

At the present time there is no state legislation covering psychologists in the State of Ohio. The State Department of Education has set up requirements for school psychologists and issues such certificates, but this is within the Department, not in the legal code.

The Ohio Psychological Association certifies those of its own members who meet its requirements. This procedure under the board of examiners has now been functioning for four years.

The OPA this year appointed a committee to inquire into the need for legislation and what procedure to take, but this committee has not yet made a report. There is also a committee working on plans for some sort of certification within the Ohio Psychological Association for those below the PhD level.

ROSINA M. BROWN
Cleveland Board of Education
Cleveland, Ohio

Ontario

When applying for incorporation in the Province in 1951, we endeavored to secure the power to certify psychologists as part of the object of the association. We were informed that such power had been opposed by two provincial departments (Health and Education) and, consequently, we deleted the offending clause and were granted incorporation without difficulty.

It was agreed by our board of directors that the question of certification should be pursued but with considerable caution. It was felt that our communication with the other professional groups had not been very effective and that efforts should be directed toward this end. Further, it was decided that future attempts to gain certification privileges should be backed by a quantity of evidence of sufficient importance to outline clearly the need for such measures.

At present, we are still at the data-gathering stage, and prospects for any immediate reapplication for certificatory powers are remote. We are, in the meantime, attempting to benefit from the experience of others as much as is possible both in the States and in Canada.

E. T. ALDERDICE
Secretary-Treasurer
Ontario Psychological Association

Oregon

The Oregon Psychological Association, having been organized for only one year, has moved slowly in promoting legislation. Committees have been appointed and much discussion has taken place, but no concerted move for immediate legislation has resulted. The consensus seems to favor slow movement toward certification. The entire organization, through a state-wide educational committee, has embarked on a program of public education stressing the need for and the utilization of well-trained psychologists. It has been our feeling that the public must be prepared for such legislation before embarking on a drive for passage. We hope to muster support from the general public and related professional groups, while, in the meantime, watching carefully for any restrictive legislation.

ROBERT D. BOYD
Community Child Guidance Clinic
Portland, Oregon

Pennsylvania

In Pennsylvania during the 1953 session, two bills concerning psychologists were introduced in the House of Representatives. One was House Bill 1193 which would have set up a board of examiners of psychologists. The other was House Bill 1194 which would have regulated the practice of psychology. The latter was a two-level bill which would have covered both psychologists with a PhD degree and psychological technicians with a master's degree.

The bills passed the House virtually without opposition by a vote of 204 to 2. However, they did not get out of committee in the Senate. This was due less to opposition against these specific bills and more to a general feeling in the Senate against licensure. No major licensure measures were acted on favorably by the Senate during the 1953 term.

What success was achieved in Pennsylvania was due in large part to the enthusiastic support by psychologists in the state.

ROBERT G. BERNREUTER
Pennsylvania State College

Tennessee

Tennessee's distinctive licensing bill for psychologists was signed into law [2] by Governor Frank Clement on April 10, 1953. The bill was a strong one from the point of view of both psychologists and physicians. It contained an unequivocal definition of the duties of the psychologist to include the term "psychotherapy."

The board of examiners provided for by the bill was appointed on July 21 by the governor. At this writing, only the initial organizational meeting of the board had been held. The problems to emerge are already numerous. However, the board members have the rueful anticipation of more and greater ones as the licensing machinery gets under way. This report will necessarily be limited to a brief notation of the most significant aspects of the Tennessee law and some tentative statements concerning the problems and anticipated effects of the law.

Distinctive provisions. The bill was initially modeled on the Georgia and Kentucky laws; however, a number of unusual provisions were added to strengthen the bill. Only these will be noted in this report. Perhaps the most significant is the definition of the practice of psychology in two levels, the "Psychological Examiner" and the "Psychologist."

The Psychological Examiner is required to have "two academic years of graduate training in psychology including a Master's degree." The Psychologist is required to have "received a doctorate degree in psychology." [3] Tennessee's definition of the "Psychologist" is as follows:

> A person practices as a "Psychologist" within the meaning of this Act when he holds himself out to be a Psychologist and/or renders to individuals or to the public for remuneration any service involving the application of recognized principles, methods and procedures of the science and profession of psychology, such as interviewing or administering and interpreting tests of mental abilities, aptitudes, interests and personality characteristics, for such purposes as psychological evaluation or for educational or vocational guidance, selection or placement, or for such purposes as over-all personality appraisal or classification, personality counseling, psychotherapy or personality readjustment.

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[2] The law was developed and guided through the legislature by the following committee: E. E. Cureton, Louise Cureton, Francis H. Deter, Nicholas Hobbs, Julian C. Stanley, W. J. von Lackum, Ted Landsman, Chairman.

[3] Readers who are interested in the details of the exemptions and substitutions are referred to the Law, Chapter 169, P. A. 1953, which may be obtained from the author or from the Secretary of State. A detailed discussion of the bill and the program in Legislation and Public Relations of the Tennessee Psychological Association is in preparation.

The definition of the duties of the Psychological Examiner substitutes the following sentence for the closing phrase in the above statement:

> The Psychological Examiner practices the following only under qualified supervision: over-all personality appraisal or classification, personality counseling, psychotherapy or personality readjustment techniques.

The definition of practice concludes with the following section, derived principally from the APA's new code of ethics:

> Nothing in this definition shall be construed as permitting the use of those forms of psychotherapy which involve the administration or prescription of drugs or electroshock or in any way infringing upon the practice of medicine as defined in the laws of this State. The Psychologist or Psychological Examiner who engages in psychotherapy must establish and maintain effective inter-communication with a psychologically oriented physician, usually a psychiatrist, to make provision for the diagnosis and treatment of medical problems by a physician with an unlimited license to practice the healing arts in this State. A Psychologist or Psychological Examiner must not attempt to diagnose, prescribe for, treat, or advise a client with reference to problems or complaints falling outside the boundaries of psychological practice.

Other provisions of the bill are:

a. privileged communication;

b. adoption of a code of ethics to govern decisions of the board (the APA code);

c. provision for periodic (every 5 years) study of the bill by an interdisciplinary committee to determine if it is unduly restraining anybody or any profession and to make recommended changes;

d. exemption of social workers as well as physicians, clergymen, etc.

The Healing Arts Law. In the initial stages of the law's development, the Healing Arts Law was a grave concern of the committee. However, as its function became clear, we were convinced that it was much to our advantage to become a part of it. The Healing Arts Board functions as an over-all licensing agency for all professions which diagnose or treat physical or *mental* conditions. Each of the professions, medicine, dentistry, optometry, chiropractic, and now psychology, has its own examining boards. Each board examines for competence and the Healing Arts Board issues the license only upon recommendation of the pertinent examining board.

The crucial issue is that the Healing Arts Board is a *lay* board, only one member of which is a physician. It is composed by law of the state treasurer, the commissioner of public health, and the secretary of state.

The Board and the Mental Health Program. No small factor in the success of the bill was the enthusiastic support of the new commissioner of mental health, Dr. C. J. Ruilman. One of the governor's pledges was to establish this department. A great deal of interest in the subject was thus generated throughout the state and the Legislature was unanimously behind the program. Dr. Ruilman, announcing his intention to secure the highest standards for personnel in the state's mental health system, threw his complete support behind the bill.

Current problems. The appointment of the board had scarcely been announced in the newspapers when one of the members received an ominous letter from a Chattanooga law firm requesting information for one of its clients. Considerably ill at ease in their unfamiliar roles and considerably impressed with the sincerity of the governor, the members of the Board met on Wednesday, July 22, in the governor's office. Judge Neal of the Supreme Court administered the oath of office to Louise Cureton, W. J. von Lackum, Nicholas Hobbs, George E. Copple, and Leland E. Thune. They were presented with their commissions by the governor who declared his interest in their work ahead and impressed upon them his conviction concerning its significance. Dr. Ruilman attended the presentation. The members of the board lugged their commissions (about four times the size of the usual PhD diploma) out of the office and went into session. Dr. von Lackum was elected chairman and Dr. Cureton vice-chairman.

Now the board met face to face the intricate realities of the impact of the legal world upon the psychological. Under the expert guidance of Mr. B. B. Gullett, attorney for the state regulatory boards, some of the flaws as well as the strengths of the bill emerged. No reasonable closing date had been set for all present psychologists to apply for licensing. The original 60 days' limit was impracticable since already almost 30 had gone by before the appointment of the board. What about psychologists currently practicing who were unqualified? Would they have to be licensed since almost all state laws prohibit a new law from depriving a man of his right to earn a livelihood?

These problems could be handled individually, the attorney suggested, so as to protect both the public and the qualified practitioner.

The board grappled with problems of red tape, budgets, clerical help, relationships with the Healing Arts Board, etc. Each member of the board was delegated to look into various problems. Dr. Copple paid a visit to the budget director and left with a sheaf of forms. A second two-day meeting was scheduled for the middle of August. Obviously one of the major problems ahead was the first licensing, the development of examinations and discussions with individual psychologists who were concerned about their status. Whether these problems are to be settled by discussion or litigation is still to be seen. One member of the board reported that he had been averaging three calls a week from psychologists waiting for the licensing. It was apparent that the board needed to act decisively and carefully to establish standards of operation which were secure in a psychological as well as legal sense.

Projected effects. As indicated earlier in this report, the long-range effects of the legislation are not yet apparent. When the governor took office, he declared his intention of making the state's program attractive to professional people in mental health. One of the interesting effects of the bill is that whereas (pardon the legal expression) in the past many of the graduate students would go north for their permanent positions, almost all the graduate students at Vanderbilt, for example, have recently indicated strong intentions of seeking positions in the state. The commissioner of mental health reported that he has a stack of applications for positions from psychologists throughout the country.

The legislation was accomplished through the highest level of cooperation between the psychological and medical professions in Tennessee. It was possible only because of the high level of respect which individual psychologists, physicians, psychiatrists, and social workers have for each other here. Growing out of the legislation is a plan for associate membership in the Tennessee Psychological Association for interested physicians, pediatricians, social workers, clergymen, etc. While, of course, it is still too early to predict accurately, Tennessee psychologists are looking forward to a development out of this experience of additional operational understandings among these related professions.

TED LANDSMAN
Vanderbilt University

Texas

Three years ago the committee on legislation of the Texas Psychological Association worked intensively with the TPA membership and, in conference also with legislative attorneys, produced a bill for the licensing of psychologists to be presented in the Legislature. This bill was approved by the membership, but was not submitted to the 1951 Legislature because of delaying tactics on the part of the state medical association to whom we also referred the bill requesting their reaction to it. The most influential legislators with whom we dealt were unwilling to push the bill unless the medical association was also behind it. Later in the year the legislative committee of the state medical association informed us that they had asked their subcommittee on psychiatry and neurology to review the bill, and this subcommittee requested that we withhold action currently for the licensing of psychologists. At a later meeting of the group, however, the matter was reviewed and the TPA was requested to move toward securing legislation for the certification of clinical psychologists. It was the opinion of the TPA committee on legislation that our best line of attack was to seek passage of a bill for certification, and we are now working on that. Our failure to have a bill ready for the 1953 Legislature was due to the fact that we felt a question of specialties within psychology was not satisfactorily solved. The association membership was not desirous of a certification bill for clinical psychologists alone, and the time required to clear with all groups concerned held back action this year.

The next Texas Legislature meets in January, 1955. We plan to submit a bill for certification of psychologists early in the session and are reasonably optimistic about the outcome. Unfortunately the number of psychologists in the State of Texas who have expressed a desire to be certified or licensed is so small that the very practical question of sufficient income from fees to carry the program arises. I have been informed by state political leaders that a certification or licensing

bill which is not self-supporting has no chance of passage.

GORDON V. ANDERSON
University of Texas

Utah

For the past year the possibilities of state licensing have been given active consideration by the Utah State Psychological Association. At the association's October 1952 meeting the merits and limitations of licensing and certification were discussed. The majority of those in attendance favored licensing in preference to certification. As a result the committee on ethics and standards headed by Ija N. Korner was instructed to study the problems involved in securing state licensing.

During the association's May meeting it was pointed out that one of the major difficulties in obtaining the desired legislation was the absence of an immediate need. No instances of malpractice in our state have been reported. By unanimous vote, however, the committee was charged with the responsibility of preparing a licensing bill that would be acceptable to the state association, the medical profession (if possible), and the state legislature. It was also suggested that such a bill should cover the industrial as well as the clinical field. At the present time a tentative bill is being formulated with the hope of presenting it in the 1955 legislative session.

ROBERT J. HOWELL
Brigham Young University

Virginia

The initiation and development of the legislation which led to the creation of a board to examine and certify clinical psychologists in the Commonwealth of Virginia was described in the September 1946 issue of the *American Psychologist* and will, therefore, not be discussed here. During the seven years of the board's existence there have been two minor legal and administrative changes, neither of which has affected its basic functioning. The first, in 1948, placed it along with other state examining boards under a newly created Department of Professional and Occupational Registration. It is the duty of the director of the department to serve as secretary, maintain all records, collect and account for all fees, make disbursements, and to employ such personnel and assistants as may be required for the operation of the board. The rendering of these services coupled with excellent cooperation by the director has expedited the work of the board. The second change, brought about by an amendment to the Code of Virginia in 1950, specified a $25 examination fee, a step made necessary by the failure of the 1946 act to authorize the collection of any funds.

The first board, consisting of Dorata Rymarkiewiczowa, chairman, Frank W. Finger, John N. Buck, Merton E. Carver, and Mary L. Lively, laid a sound organizational and procedural groundwork which contributed immeasurably to the successful workings of the board. John N. Buck served as chairman from 1948 to 1951 when illness forced his resignation. The personnel of the current board is as follows: William M. Hinton, chairman, Austin Grigg, Gilbert J. Rich, Richard H. Henneman, and Catherine Giblette. The names listed above include all the individuals who have served on the board to date.

The following quotation from the certification law should serve to implement the procedural discussion which follows.

> A candidate for certification as a certified clinical psychologist shall in order to be certified meet the following requirements:
>
> (1) Be of good moral character.
>
> (2) Hold a doctorate in psychology from a college or university accredited by a recognized regional accrediting agency including graduate courses in clinical, experimental and physiological psychology, psychotherapy, and statistics, or have had other academic training or specialized experience which, in the opinion of the Board, is equivalent thereto.
>
> (3) Have had five years of actual experience in clinical work, at least three years of which have been in an approved mental hygiene unit, and at least one year of which has been under the supervision of a certified clinical psychologist, or other experience which, in the opinion of the Board, is equivalent thereto.
>
> (4) Demonstrate competence from a clinical standpoint, as evidenced by passing such examination or examinations as the Board may deem necessary. (1946, p. 474; Michie Suppl. 1946, 1639f; 1950, p. 991.)

Only experience gained after at least one year's acceptable graduate study beyond the baccalaureate degree is acceptable in fulfillment of No. 3 above. In the rare case where the candidate is permitted to substitute experience for the formal education requirement in No. 2 above, the formula is the

substitution of two years of acceptable experience for each required year of academic work. A minimum of one year of graduate study is a prerequisite.

A thorough screening of the credentials of all applicants has reduced to a minimum the probability of failure by those individuals taking the examination. The approximate examination procedure has been as follows:

1. The candidate is given two hours to examine a patient, employing whatever techniques he desires;

2. One hour is then allowed for preparation of a written summary of the examination, including diagnosis and prognosis;

3. He is then examined orally. The first portion of the time is devoted to an oral presentation of the case with an explanation and defense of the techniques used. The second portion is given over to questioning on the methodological and statistical basis of intelligence and personality testing and on the experimental method especially as applicable to clinical work. The last portion is used for questions bearing on the definition of various clinical syndromes, the rapid diagnosis of any case for which background material is completely lacking, and discussion of examination procedures adaptable to situations less limited in time. At times when a patient is not available, the candidate is given case data to study and interpret, followed by the procedures described above.

After their credentials have been verified, persons requesting certification by reciprocity are required to appear before the board for a brief interview. As of July 1, 1953, 33 persons have qualified for the certification; 14 under the "grandfathers' clause," four by reciprocity (all of whom are diplomates of the American Board of Examiners in Professional Psychology), and 15 by examination.

In conclusion, it appears appropriate to quote from the report, published in the September 1946 issue of the *American Psychologist*, by the Committee on Training and Standards, Psychology Section, Virginia Academy of Science:

> It may be said, in summary of this legislation, that psychologists in Virginia are given no legal privilege or responsibility beyond those previously enacted, although their use in court is more strongly urged. The committee feels, however, that a major step forward has been made toward raising the status of the profession in the State. A very definite specialty has been legally recognized, high standards of training and competence have been established, and there has been put into the hands of the psychological profession the power of determining who can and who cannot lawfully claim himself to be a "certified clinical psychologist." With judicious application of this power, high quality performance in the name of Psychology can be expected with increasing confidence, and as time goes on, duties more commensurate with proven ability may be assigned by law to the clinical psychologist.

The experience of the board during its seven years of functioning bears testimony to the soundness of the pioneering work of this committee.

WILLIAM M. HINTON
Washington and Lee University

West Virginia

The State of West Virginia is engaged in a program of self-certification and will have one form of certified psychologist only. After our state association has been properly certified, we may then begin an investigation of licensure procedures. This will probably be several years in the offing.

ROBERT P. FISCHER
President, West Virginia Psychological Association

Wisconsin

The Wisconsin Psychological Association polled all the members of the APA in the state in 1952 to ascertain their interest in pushing for either certification or licensure. The replies indicated an overwhelming desire to seek certification but not licensure at this time. The legislative committee on the basis of this poll approached the Wisconsin State Medical Society concerning their attitudes toward our endeavors for certification of psychologists in the state. The medical society through its executive secretary indicated that they would like to set up a joint working relationship between their organization and ours to study the problem of legislation. A joint committee is now functioning toward this end. The sentiment in both organizations at the present state of development seems to be for certification rather than for licensure. Because the State Legislature in Wisconsin meets on alternate years, it will be 1955 before any definite steps can be taken to enact legislation. I might add that those who favor certification in the state generally are attracted toward the Minnesota type of legislation.

W. J. HUMBER, *Chairman*
Wisconsin Psychological Association Legislative Committee

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Comment

Comments[1] on "Relations with Psychiatry"

It is our belief that psychology is supported in its position not only by considerations of public welfare, but by a considerable body of empirical fact. Research in psychopathology leads to the implication that these "illnesses" are a result of distortions of life experience and are therefore to be properly considered as aspects of learning broadly conceived, whether this be learning to perceive or learning to respond. There are many psychologists who are convinced that psychotherapy is an educational process which is concerned with the acquisition of certain complex social skills. Even if this is true in a limited sense only, it would follow that the "therapy" part of psychotherapy is a misnomer. It would also seem clear that no aspect of the currently standard medical curriculum properly prepares the general medical practitioner to prescribe or perform this form of education; even less does it prepare him to supervise psychologists who are specifically trained in psychotherapy.

It is our feeling that the current insistence on the use of the term "illness" to designate psychological disturbances, while appropriate in a general sense, is understood by the general public and much of the medical profession to imply that neuroses are subsumable under the same category of phenomena as measles and appendicitis. The difficulty which the psychotherapist encounters in assisting clients to accept personal responsibility for solving their problems is due in no small measure to mental hygiene programs which have placed these problems within the province of medicine and hence, by implication, susceptible to therapy via pill. This is not to challenge the demonstrated value of somatic therapy in psychiatric practice, nor to deny the necessity to be constantly alert to the borderline problems to which the Council of Representatives alluded in 1949. It is only a protest against the encouraging of passive and dependent attitudes by the medical profession.

If it develops that psychologists have only the two alternatives which are mentioned [in "Relations with Psychiatry"], they must certainly elect to resist. Not to do so would be to abandon not only our ethical principles as clearly conceived, but to deny the validity of a considerable body of empirical observation which our principles as scientists will not allow. The medical profession has abandoned many reactionary positions in the past; we can only hope that it will do likewise in this instance. Our answers to this challenge are our research skills and the increasing numbers of young men who enter the field to serve the public.

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A resolution of the conflict between psychiatrists and psychologists requires some basic definitions delineating and separating the psychologist from the psychiatrist. Both the psychologist and the psychiatrist have a legitimate interest in human behavior, both normal and abnormal. Both are found diagnosing and treating behavior problems. Both have long years of professional preparation and hospital internships. Both professions have techniques in common. Yet, there are basic differences which should be understood, evaluated, and appreciated.

What are the legitimate differences between the psychologist and the psychiatrist? A superficially quick (and often wrongly accepted as adequate) answer is always given: The psychiatrist is trained in a medical school and has an MD degree, whereas the psychologist is trained in a graduate school of arts and sciences and has a PhD (or similar) degree. Then, the respondent who gives the answer fumbles around that both psychologist and psychiatrist apparently do the same things and that he cannot really explain that there is a difference in what they do, except that the psychiatrist can use shock treatments and the psychologist is limited in his usefulness because he may not do so.

Let us first consider the psychiatrist. The psychiatrist is generally a medical doctor (exceptions will be noted below) with exceptionally fine training in (human) biology, physiology, pathology, chemistry, physics, and other of the biological disciplines. He learns to look upon disease as some disturbance in the biological organization of the individual, such homeostatic disorganization coming either from a germ invasion, dietary deficiency, or endocrine dysfunction. The medical doctor learns that to return the body to health he must directly treat the biology. He may prescribe diets, drugs, electricity, surgery, or other measures directly aimed toward the biological organization in an effort to return the physiological imbalance to a state of continuing homeostatic equilibrium. This, then, is the basic theoretical assumption implicit in medical practice.

Theoretical assumptions of the psychologist are basically different from the assumptions of psychiatry. To the psychologist, the entire scope of the human mind

[1] See "Across the Secretary's Desk. Relations with Psychiatry." *Amer. Psychologist*, 1953, 8, 169–173.

and human behavior, both normal and abnormal, become the proper province of study. And, as psychiatric therapy has failed to cure large numbers of the mentally abnormal, the interests of the psychologist have turned more and more to the clinical areas. In the development of his concepts of psychotherapy, the psychologist has been guided by this basic principle: Disorders of the mind and emotional upsets are primarily the result of a disordered psyche, and are to be influenced by mental treatment. Hence, the psychologist does not seek training in a medical school; his theoretical approach does not demand it.

One special type of psychotherapy, not psychiatry, is psychoanalysis. Even though Freud was primarily trained as a physician, he developed techniques of psychotherapy which in no way depend upon a knowledge of biologic medicine for their undertaking. Freud approached mental illness through verbalizations, and not through medications. Without implying that further development of psychiatry was barren, Freud virtually abandoned the field of psychiatry to become a rather special type of psychotherapist. Now, either properly accredited psychologists or psychiatrists may become trained as psychoanalysts.

So, we can see that there are basic differences between the broad fields of psychiatry and psychology. Both have much to contribute to human welfare from research as well as from therapeutic efforts. Both must share common diagnostic techniques. For the welfare of the ill patient, both should cooperate in seeking the cure—but cooperation as equals is essential. And all professional groups should be warned that psychologists will resist any and all encroachments by the unqualified in the domain of psychology. Although a medically trained person may also become competent in the field of psychology, just as the psychologist may also qualify with additional study to become a medical doctor, the mere possession of an MD degree does not automatically qualify one for the practice of psychology. And psychologists should seek to resist the encroachments of all the unqualified by restricting the practice of psychology, by certification and licensure, to members of the American Psychological Association. Only then will our obligations to the public and other professional groups be fully discharged, and our unique identity preserved.

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As I simplify the issue [on relations with psychiatry] so that I can verbalize it to my own satisfaction (perhaps I should say oversimplify since this term is commonly applied to any attempt to eliminate ambiguity) there is little controversy about diagnosis. In any case where organic involvement is even slightly suspected the clinical psychologist would defer to the medical profession. He would not, or at least should not, consider himself qualified to perform that part of the diagnosis which finally establishes or eliminates the possibility of organic involvement in a behavior disorder. He might obtain data in the form of test results or observational reports which contribute to that decision but he should not have final responsibility for it. On this issue I believe there is little disagreement. However once this dichotomous diagnosis has been made by members of the medical profession, I see no reason why further breakdowns in the diagnosis of behavioral pathology should be the sole responsibility of the medical profession, especially if, as I understand it, this profession does not legally or in practice limit this responsibility to physicians with full supplementary training in the field of behavior and behavior pathology *at least* equal to that required of a qualified clinical psychologist. I see no reason whatever to believe that a standard medical training with or without an informational course or two in psychology or psychiatry should qualify a physician to diagnose behavior disorder. And from my acquaintance with the training and practice of clinical psychologists and psychiatrists I see no indication that the latter are better qualified to diagnose behavior disorder, certainly when organic involvement has been excluded.

The question of *legal* responsibility may be raised here, but I think the present status of that responsibility is irrelevant. Is not this an issue which the various controversial bills are supposed to settle for the future? In any case, I doubt that present laws regulating medical practice adequately cover the assignment of responsibility for *behavioral* consequences of either medical therapy or psychotherapy to the medical man. In fact, if one may judge from the freedom with which brain-sculpture is practiced by members of the medical profession, the medical license promotes irresponsibility.

However, the major issue seems to be: Who shall practice psychotherapy? Diagnosis and medical therapy for behavioral disorders are not in serious question. One wonders whether economic issues are not involved here, but these are perhaps better not discussed. As I understand psychotherapy, it is a practice whose only tool is words, certain standard upholstered office furniture, and, since Rogers, well-chosen silences. This I would distinguish from medical therapy, whose tool, if we may judge from the name, is medicine, although traditionally it includes the scalpel, forceps, and needle. Most other mechanical and electronic tools have been released to technicians and other nonmedical professions. In the licensing and certification bills which clinical psychologists have proposed there is no indication that they are attempting to prevent the medical

and surgical professions from using their traditional tools. However, the competing bills proposed by members of the medical profession all seem to have in common the insistence that the medical profession shall have exclusive responsibility for the words used in a therapeutic situation. Since there is some evidence from research in psychosomatic medicine that misuse of words under these circumstances may aggravate an organic pathology, this may be justified when such pathology is indicated. But when it is contraindicated by the legitimate and desirable practice of medical or psychiatric diagnosis, one may question whether therapeutic words should be assigned by law to the exclusive jurisdiction of medicine.

To summarize my oversimplified position, one which I do not believe has been presented for consideration by and with the medical profession: In any case of behavior disorder in which organic involvement is even slightly suggested, responsibility for a dichotomous diagnosis for the presence or absence of such involvement should be assigned to members of the medical profession. If organic involvement is indicated, all *responsibility* for further diagnosis and therapy should remain with persons with adequate training in medicine *and* psychiatry or medicine *and* clinical psychology. This would not preclude further diagnosis and therapy by clinical psychologists under medical or psychiatric supervision, but it would prohibit physicians without full psychiatric or clinical psychology training from this practice.

If organic involvement is not indicated, the medical profession has no reason to claim responsibility either for behavioral diagnosis or for psychotherapy which is limited to manipulation of verbal aspects of the environment. This practice should be limited to those with adequate training, which might be specified as training in clinical psychology and/or the behavioral (nonmedical) aspects of psychiatry. The specification of this training is a legitimate subject for inclusion in licensing and certification bills for clinical psychologists (and psychiatrists).

This proposal assigns a major responsibility to the medical or psychiatric diagnostician. It is to be hoped that the ethics of his profession would prevent him from using his diagnostic responsibility for purposes of power politics.

If it were later shown that strictly medical training contributed to psychotherapeutic treatment of behavior disorders which were unaccompanied by organic involvement, extension of the jurisdiction of psychiatry, such as psychiatrists are now recommending to legislators, might be justified, or as an alternative, medical training might be required of professional clinical psychologists. At the present time there is no evidence that a scientist would accept that this is the case, that is, there is no evidence that psychotherapy as practiced by a psychiatrist is superior to psychotherapy as practiced by a clinical psychologist (or vice versa).

In brief: Let us draw the line between medical therapy and psychotherapy, not between psychiatry and clinical psychology.

D. G. ELLSON
Indiana University

There is no better confirmation of the cleavage existing between the two APA's (American Psychological Association and American Psychiatric Association) than the editorial on "Mental Health" in the *Journal of the American Medical Association* (1953, Vol. 152, No. 1, pp. 48–49). Reading this editorial one gets the feeling that the American Medical Association is unaware of the existence of the American Psychological Association, and the efforts of Divisions 12 and 17 in particular, in preventing and helping mental illness. Intellectual and professional compartmentalization of this type, relative to an old-standing professional and educational organization engaged in mental health, research, diagnostic methods in determining extent of mental illness, counseling, and psychotherapy is almost impossible to conceive to be true. It is my firm belief that all professional organizations engaged in promoting mental health should be given due recognition by the American Medical Association. It is interesting to note that the following organizations were listed in the editorial: "There are in addition several national organizations that deal with special aspects of the mental health problem. These include the American Association of Mental Deficiency; the National Epilepsy League; National Committee on Alcoholic Hygiene; The National Committee on Alcoholism; The National States' Conference on Alcoholism; and Alcoholics Anonymous." Other organizations also listed were: "American Institute of Family Relations; The Family Service Association of America, and the National Council on Family Relations contribute significantly to the prevention of mental illness."

Elsewhere in the editorial, mention is made of the function of clinical psychologists, among others, in terms of "recruiting and training of mental health personnel," "promotion of research on treatment and prevention of mental illness," and "the education of the public to eliminate the stigma associated with mental illness," and yet no recognition is given to the existence of the American Psychological Association of which clinical psychologists are members. Likewise, no recognition is given to the American Psychological Association in terms of the numerous publications, research findings, and influence on both public and private organizations in terms of promoting mental health.

SAUL KASMAN
De Paul University

Psychologists have been spared conflicts with organized medicine, such as the one that is commencing, and are rather unprepared for the tactics and ruthlessness that medical men collectively can and will resort to. The American Psychiatric Association has publicly announced a policy which is an echo of a publicly announced policy of the American Medical Association, coming after several years of collaborative discussions between the official psychological and psychiatric bodies. In organized medicine today what individuals or affiliated organizations say or promise has little value. Sometimes even official pronouncements at the top level have a way of being distorted by the time they reach the enactment level.

Before proffering possible answers to the questions asked [in "Relations with Psychiatry"], there are a few facts frequently overlooked. First, the majority of psychiatrists are organicists, and there is a peculiar ambivalence in the approval of methods of psychotherapy. (See Leo Alexander's *Treatment of Mental Disorders,* Saunders, 1953.) Most psychiatrists in private practice use some form of psychotherapy, but there is a wide range in its nature—most of it being organically oriented. Next, medical men are influenced directly to a remarkable degree by "instructions from headquarters." Failure to comply is attended by censure in various degrees (note the case of Dr. Ivy in Chicago). Next, the average physician (and psychiatrist) has only a vague idea of the work of a psychologist, and if he were inclined to read psychological literature he would be discouraged by his unfamiliarity with the method and statistics incorporated universally in psychological articles. As a matter of fact, there is more opposition to dynamic psychotherapy from physicians than from the laity. Next, even in well-staffed institutions where the classic team of psychiatrist, psychologist, and psychiatric social worker is operative, it is on a hierarchical basis with the psychiatrist in the administrative or supervisory post frequently holding the authority. The other disciplines often contribute their work on an elective basis rather than as an essential component of patient study. And, finally, the practice of medicine and psychiatry is a business as well as a profession, and is frequently conducted in groups that are both closely and tightly bound together.

To the first question:

1. "What do clinical psychologists now do that is harmful to clients?" Medical men could produce an impressing array of cases harmed by failure to recognize organic disease. It would mean little that such cases are poorly representative, and that it is very rare for a psychologist to be sued for malpractice.

2. "What do they do that causes physicians concern?" This is simple, they are competition.

3. "What professional people are now using what sort of psychotherapeutic techniques and with what results?" This would probably be answered didactically with nicely selected literature quotes, showing that only recognized psychiatrists are successful.

4. "How does anyone tell whether an individual is skilled and successful in applying psychological techniques?" Just call your local county medical society.

5. "How many psychiatrists are skilled in psychotherapy as well as other approaches to mental disorders?" This indeed could be embarrassing, but not for long, for there would be a group of specialists within the specialty who will have the skill and receive the referrals.

There is an answer to this problem, and that is to slowly include clinical psychology in the curricula of medical schools. It can be done, though it must be subtle, and an understanding can be reached that no official pronouncement would change. Some may feel that this will take much time. Possibly that is true, but so will the program of the medical men. Resistance to their moves at the state level and at the same time a quietly instituted program to define publicly and legally the role of the psychologist will protect his position and his referrals as well (if he puts his own house in order first).

THOMAS J. MEYERS
Pasadena, California

The controversy arises, it seems, from the push of the body of clinical psychologists seeking licensure in various states, and a retaliatory reaction of medical associations such as to seek changes in medical practices acts so as to exclude psychologists from practicing psychotherapy. Various technical legal phrases, strict definitions, etc. I shall here leave aside, and turn my attention to what seem to me some of the central issues.

While nowhere made specific, it seems to me the motivation of the psychologists is a kind of denial of a sense of inferiority. This comes quite realistically from the legal position of not having a presumption of proficiency, so that in court the psychologist must prove he did correctly when sued, whereas the accuser must prove the doctor committed malpractice. Another source is that historically psychologists have been unaccepted by the practitioners of psychotherapy. A third source is the psychologist's own personality, filled with caution, and as put elsewhere in this same issue of the journal "[They] are not so sure of their own minds . . ." (*Amer. Psychologist,* 1953, 8, 152).

On the other hand, psychiatrists for the first time face competition from a horde equal to, or greater in number than their own, a horde which is unknown to them, whose professional qualifications are unknown except for the fact that training does not include a

knowledge of medicine. Psychiatrists' motivations seem to me twofold: the age-old one of fighting for one's livelihood when it seems endangered, and the very praiseworthy one of protecting the public from charlatan practitioners.

If these guesses are correct for any large portion of both groups, cooperation and mutual benefit seem to me possible if a few ideas and a little information are distributed among the populations. The core problem seems to me to be the position of psychotherapy. I have not the slightest hesitance to affirm with the Committee on Mental Health that "the practice of psychotherapy is but one aspect of the total therapeutic armamentarium of a physician." But as physiotherapy, occupational therapy, foster-home placement, and almost innumerable other therapeutic measures used and advised by physicians are actually accomplished by technicians other than physicians, so might psychotherapy be done by others, namely psychologists, social workers, ministers, and others. In these other specialties the decision as to type of therapy rests with the treating physician-in-charge. I suggest this is the relationship that perhaps should exist also in psychotherapy, that is, the decision as to whether *the therapy of choice* is psychotherapy should be made by a psychiatrist or internist.

This arrangement seems to me to meet the psychiatrists' concern about the public welfare, and at the same time to be to the psychologists' advantage. Differential diagnosis is difficult even to the trained internist, neurologist, and psychiatrist in many cases. The number of organic diseases which may have as part, or all, of the observed symptoms a picture suggesting functional illness are many. In *every* case of mental dysfunction all of these should be ruled out, as well as the possibility of a mental illness being ruled in, and here no one not trained in medicine is qualified. Where even psychiatrists seek consultations from other medical specialists, how is a psychologist to manage? Even with the added protection of licensure his risk of being sued for malpractice is the same, and the charge would not be difficult to prove if he has not had good medical advice. Cooperation with the medical profession is imperative for all clinical psychologists who wish the utmost protection for self *and* patient.

Once a differential diagnosis is made by a competent physician and assuming the psychologist keeps at his service an internist (and that he refers his patient for physical evaluation with each undue symptom), I can see no reason why he should not practice psychotherapy. This is based on these ideas: (*a*) the number of persons who can benefit from psychotherapy far exceeds the ability of *all* persons in whatever fields (psychiatry, psychology, social work, ministry, etc.) to treat them, on the basis of time alone; (*b*) persons in other fields, e.g., social work, ministry, are actively engaged in such work, and without the animosity of the medical profession (perhaps because willing to pay at least lip service to the control of physicians who may nominally supervise); (*c*) next to psychiatrists, no other professional people are so adequately prepared for such work (in fact, while *at the time of beginning* professional life not so well prepared in *clinical* work with patients as the physician, the psychologist is probably better prepared in the *theory* of personality and mental function and perhaps even dynamics).

It is my belief that where psychologists seek licensure, the medical associations may not obstruct the measures if the former are willing to agree to a clause requiring examination of patients by licensed physicians and that a medical consultant be retained. In such cooperation the psychologist may learn much from the physician, and the latter may benefit from the psychologist's greater training in statistics, experimental design, and perhaps greater acquaintance with sociological problems. Rather than status competition, such cooperation may lead to much needed new ideas in the fields of psychotherapy and basic research.

While I will not go so far as to suggest that adequate and beneficial psychotherapy cannot be done by one who has not been *successfully* and extensively psychoanalyzed, it is my belief that this should be one of the requirements of all psychotherapists who pretend to do any type of "deep" or "reconstructive" psychotherapy. This experience is by far the best training for working with the emotional dysfunctions of others.

GEORGE F. SCHNACK
New York, New York

In regard to our relations with psychiatry, I feel that some of the friction may stem from the fact that we have not defined for ourselves, psychiatry, and the public at large the difference between a "Clinical Psychologist" and a "Psychotherapist." I not only believe that a difference exists, but that it must be defined clearly both in terms of *function* and *training*.

Psychology has traditionally been concerned with the scientific measurement of "mental activity." This tradition, fostered by such men as Wundt, Titchener, and Hull, has served as a historical guide for the training of future psychologists, including clinical psychologists. In some universities the psychological laboratory forms the nucleus of training and in part defines the function of the psychologist, i.e., "scientific measurement." Continuing this policy, there appears to be an ever increasing emphasis placed by our training institutions on a statistical-mathematical approach to human problems, many leaning heavily on that theoretical bias known as "learning theory."

I do not believe that this type of training is either

necessary or desirable for the person who plans to function primarily as a psychotherapist. I believe that we have, so to speak, cut our own throats by graduating a jack-of-all-trades variety of clinical psychologist trained in learning theory, advanced statistics, and experimental psychology, with only a graduate course or two to provide a training background in psychotherapeutic technique and practice. We have trained a research person, and imply by his title (clinical psychologist) that he is capable, willing, and qualified to do therapy. He *is* a clinical psychologist—"clinical" because he is interested in psychodynamics and psychopathology; "psychologist" because he is interested in valid measurement of these mental activities—but he is *not* a psychotherapist. Perhaps this latter species should not even be called a clinical psychologist, but rather a "psychotherapist," "emotionologist," or something else.

Of course there are many clinical psychologists who are also psychotherapists, and good ones, but this is true in spite of their training, and not because of it. Psychotherapy is and always will be an art—not independent of training but rather enhanced by training. In the same way are the painter's and musician's artistic talents enhanced by training. But the training now offered the clinical psychologist will not particularly but only incidentally increase his effectiveness as a therapist. It *is* the function of the clinical psychologist interested in psychotherapy to discover and isolate those relevant variables involved in the make-up of a successful therapist, and to use this information for purposes of selection, screening, and training.

What kind of training *should* a psychotherapist have, and how should he function? I don't know the answer to this, but I can make some suggestions that have been gleaned from limited observation. It would seem that one of the jobs of the clinical psychologist is to discover and isolate the factors that make up a good psychotherapist.

One suggestion might be to let the medical schools supervise and train a nonmedical psychotherapist, who would subsequently work with or in close connection with a psychiatrist. This might help smooth over relationships with the medical profession and prevent a battle that appears inevitable at this time. In addition, and more importantly, it might actually constitute much more adequate training for the prospective therapist. Medical personnel would be more aware of possible somatic "signs" and danger signals that could arise during a therapy session, and could stress these to the therapist-in-training. Perhaps a modified medical curriculum would be called for, with considerable emphasis on personality dynamics and theory, supervised practice in psychotherapy, etc. The "product" of this training might be called a "therapeutic technician" as we now have X-ray technicians, dental technicians, etc.

Another approach might be to reorganize the academic programs within our psychology departments at the universities. In training therapists, perhaps we need more MD's as instructors.

A third possibility, and one that has already sprung up to meet this need, is the "Institute" set-up, such as those that now function in New York and Chicago. These Institutes admit persons in the field of Interpersonal Relations and train them in theory and practice of psychotherapy, including supervised psychotherapy of "control cases," for a period of two or three years. In most cases a personal analysis is required. Graduate work in psychology, sociology, education, or theology is usually required for admission. In some cases a PhD is required.

It would appear that psychology is in a poor bargaining position in relation to medicine—the medical tradition of "healing arts" is much older than psychology, and their legislative lobbies larger and more powerful. Perhaps psychology must make some concessions in terms of letting the medical men set up or be instrumental in training this "intruder" in the field of healing.

FRANK O. VOLLE
Decatur, Illinois

Testifying As an Expert Witness

Much has been said and written about the need for legal recognition of clinical psychology as a profession, in the form of state certification or licensing. Few psychologists, however, have met with situations in which the lack of such recognition was of any consequence in dealing with the public. The following incident, therefore, may be of interest to the readers of this journal.

The writer, as a clinical psychologist on the staff of the Psychological Clinic of the University of Illinois, was requested by the attorney for the defense to undertake a psychological evaluation of a 26-year-old white male accused of abducting and raping a four-year-old girl. An examination revealed the accused to be an "inadequate personality," an individual who was neither neurotic nor psychotic, but who, while of average intelligence, was characterized by inadequate responses to intellectual, emotional, and social demands. On the basis of all the available evidence the writer was prepared to testify that the accused knew the difference between right and wrong, but that he was the kind of person who might frequently act without taking into account the consequences of his acts, either for himself or others.

The defense attorney introduced the writer on the witness stand as a "psychiatrist," but he was immediately corrected. The prosecuting attorney objected

to the admission of testimony from a psychologist, and the jury was sent out of the courtroom while the judge and the opposing attorneys discussed the admissibility of the testimony. The prosecutor claimed that a psychologist could not testify as an "expert witness" in the State of Illinois, and offered legal precedent for his claim. There was some dispute between the defense and prosecuting attorneys as to the interpretation of previous legal decisions, but the judge finally upheld the prosecutor and ruled that the writer could testify only as a "layman." He ruled further that any testimony based on the defendant's behavior in response to psychological tests was also inadmissible. The defense objected that even as a "layman" the writer's testimony was based on the interaction between him and the defendant, and inasmuch as that interaction included the administration of and responses to test materials, testimony involving the use of tests was admissible; thus, if a layman were to base his opinion as to the mental condition of another person on the latter's response to a kick in the shin, the administration of the kick was part of the observed interaction and part of the admissible evidence. The judge overruled this objection, and the writer left the stand without being permitted to testify.

In the absence of legal recognition of clinical psychology as a profession, the acceptance by the courts of a psychologist as an "expert witness" is a matter of precedent. In this case the precedent cited involved allied professions (e.g., sociology), professions ancillary to the medical profession, and one decision involving a psychologist. The last was interpreted differently by the opposing attorneys, and the judge's decision upholding the interpretation of the prosecuting attorney established another precedent. Unless this decision is reversed by a higher court at some later date, there is little chance that the testimony of a clinical psychologist based on such commonly used tests as the Rorschach and the MAPS will be accepted in the courts of the State of Illinois.

The defendant in this case was found guilty and sentenced to fifty years in prison. His attorneys requested a retrial, citing the judge's decision with respect to the testimony of the writer as one of their reasons, but this request was denied. It was the opinion of the defense attorneys that the writer's testimony might have been instrumental in sending the defendant to an institution where he might obtain psychiatric help, rather than to prison. Therefore a man's fate was decided on the basis of a legal technicality. If clinical psychology were legally recognized in the State of Illinois as an independent profession, this situation could not have arisen.

NATHANIEL H. EISEN
University of Illinois

International Communication

I have found Dr. Beier's comments on international communication (*Amer. Psychologist,* 1952, 7, 592) extremely interesting. It is unfortunate to have to report that the described attitude of European psychologists on "American psychology" is far from being uncommon among Latin American workers in the field. I feel that as a Latin American psychologist I can add some information that may help in understanding better some of the problems to which he refers. It may be of interest to analyze my own attitude toward "American psychology" before and after training in the States.

From 1938 to 1942 I received a fairly large amount of psychological training in Mexico. Experimental psychology was represented by Wundt, and the history of psychology by Aristotle and Saint Augustine, etc. Only in contemporary systems of psychology did we hear anything about earlier Gestalt work or Watson's behaviorism. My professors on one side and my ego on the other probably had something to do with the horror with which I used to comment, "Thinking as a laryngeal habit!" This and other horrors probably had much to do with my attitude that American psychology was "superficial," not to mention other adjectives. "Thinking" as considered in the Gestalt psychology of the time, more complicated and definitely vaguer but undoubtedly "European," seemed to satisfy my expectations much better.

In 1943, my first year in the United States, I became fascinated with Miller and Dollard's *Frustration and Aggression.* I communicated my enthusiasm to one of the authors of the book, and told him that I considered it important that it be translated. I also communicated with some of my older professors in Mexico, one of whom, although confessing that he could not see the significance of such a theory, tried without success to interest editorial and academic concerns—after all, what could "American psychologists" say of importance.

While in the States, I was able to discover also that Watson, and for that matter a good deal of modern behaviorism, would appear difficult to understand and somewhat strange unless placed in its proper historical sequence and in its cultural background. The sequence —structuralism, functionalism, and then behaviorism, with a background of pragmatic philosophy and the typical American attitude of questioning authority (I believe it will be a long time before we Mexicans break our fear of and respect for authority)—makes Watsonian behaviorism clear, understandable, and almost an "indispensable" step in the development of scientific psychology. (Perhaps it is because I went into psychology as a physician skeptical of many "organic diseases" that I found "American psychology" so fitting to my needs and interests.)

Behind all this, I feel there is a definite but somewhat unconscious hostility toward anything that is "American" in science and culture. The history of this attitude is too long and complicated to explain, but I feel that an international journal, written in Spanish for Latin American countries and in other languages for Europe, expressing in terminology understandable to those cultures salient aspects of the complex American psychological movement, would serve to a good extent to break down slowly such barriers to communication. I think Dr. Beier is very right in saying that it is up to the more strongly organized American groups to take the first step.

I endorse Dr. Beier's proposition most strongly, and hope that enough interest in this problem can be raised to lead it to some practical conclusion.

R. DIAZ-GUERRERO
Mexico City, Mexico

Psychologists in High Posts in Government

In view of the absence of psychologists from the more important governmental posts in the United States, which was pointed out in the "Diary of an Executive Secretary" (*Amer. Psychologist,* 1953, 8, 92–93), it is interesting to note that the new Egyptian cabinet contains two educational psychologists. (A large proportion of the employed psychologists in Egypt are educational psychologists associated with one of the Institutes of Higher Education.)

Mohammed Fuad Jalal (or Galal), chairman of the Egyptian Psychological Association, is Minister of Guidance (or "Orientation"). He is concerned with the evolution of intellectual or theoretical bases to underlie the new society, and is consulted on high-level decisions relating to everything from the Arab League to the Fourth Estate. His psychological training was at the University of London, where he received a BS degree and acquired a lasting interest in psychometrics from work with Professor Cyril Burt.

Ismail Kabbani is Minister of Education. He, too, received a bachelor's degree from the University of London. His colleagues trace his interest in testing to his association with Claparede when the latter was in Cairo in the late twenties. He also visited the United States while he was technical adviser to the Ministry of Education. One of his intelligence tests is now being used in the Egyptian Army, and his influence is also seen in the recent upsurge of testing in the Egyptian school system.

Students of the "sociology of scholarship" may wish to speculate on the situation which has brought so many academic persons into positions of prominence in Egypt. One gains the impression that General Naguib relies on professors as heavily as President Eisenhower relies on businessmen.

Perhaps the APA should inaugurate cross-cultural study of the place of psychology (and scholarship) in society.

E. TERRY PROTHRO
American University of Beirut

Psychological Notes and News

Robert H. Thouless of Cambridge University has received a Fulbright grant for research and lecturing at the Parapsychology Laboratory of Duke University from September through December, 1953.

Frank L. Sievers, formerly with the Division of International Education, U. S. Office of Education, has been appointed executive secretary of the American Personnel and Guidance Association.

George P. Dunlevy, Jr. has been appointed executive director of the newly formed Family and Children's Counseling Center in Fort Lauderdale, Florida.

Benjamin Shimberg, formerly assistant chief of the Experimental and Evaluation Services Branch, Division of Public Health Education of the U. S. Public Health Service, has joined the staff of the Educational Testing Service, Princeton, New Jersey, with major responsibility for developing a research program in the field of educational television.

Herbert R. Lotz has been appointed supervisory counseling psychologist in the Counseling Section of the VA Regional Office, New York, New York.

Charles H. Scheidler, formerly of the American Institute of Research, has been appointed a vocational counselor at the University of Dayton. He will also serve in the department of psychology.

Stanley B. Zuckerman, clinical psychologist of the State of Minnesota Youth Conservation Commission, has received a grant from the Department of State to serve as U. S. specialist in youth activities in Northrhine-Westphalia, West Germany, for a three-month period.

Marvin Grossack has been appointed associate professor of psychology at Philander Smith College, Little Rock, Arkansas, for 1953–54. He will also be visiting professor at Arkansas Baptist College, and a research associate of the Psychological Corporation.

Donald R. Morrison, formerly assistant professor of psychology at Dickinson College, has been appointed head of the test construction and research unit of the Pennsylvania State Civil Service Commission.

E. H. Porter, Jr., associate professor of psychology and research associate at the University of Chicago, has been appointed senior consultant for the Harris-Spencer Company, industrial evaluation center, Chicago, Illinois.

VA DEPARTMENT OF MEDICINE AND SURGERY PSYCHOLOGY PROGRAM ANNOUNCEMENTS

Clinical Psychology

Theodore H. Barrett, Jr., a graduate of the VA Training Program, University of Texas, has been appointed to the staff of VA Hospital, Marion, Indiana.

Merton H. Friedman, a graduate of the VA Training Program, University of Illinois, has been appointed to the staff of VA Hospital, Boston, Massachusetts.

Sol. L. Garfield has transferred from VA Regional Office, Chicago, Illinois, to VA Hospital, Downey, Illinois, as Chief, Clinical Psychology Training Unit.

Robert G. Gibby has transferred from VA Regional Office, Detroit, Michigan, to VA Hospital, Marion, Indiana, as Chief Clinical Psychologist and Chief of the Clinical Psychology Training Unit.

Arthur A. Kramish has transferred from VA Hospital, Lexington, Kentucky, to the position of Chief Clinical Psychologist, VA Hospital, Lincoln, Nebraska.

Harold Lindner has transferred from VA Hospital, Richmond, Virginia, to the staff of the National Institute of Mental Health and will be assigned to duty in the District of Columbia Juvenile Court Psychiatric Clinic.

Edith Lord has transferred from VA Regional Office, New York, to VA Hospital, Montrose, New York, as Chief, Clinical Psychology Training Unit.

Syvil Marquit has resigned from the staff at VA Regional Office, Miami, Florida.

James T. Morton has resigned from the staff at VA Hospital, Tuskegee, Alabama.

Harry Rockberger, a graduate of the VA Training Program, New York University, has been appointed to the staff of VA Hospital, East Orange, New Jersey.

Fred Spaner has transferred from VA Hospital, Marion, Indiana, to the position of Chief Clinical Psychologist at VA Hospital, Pittsburgh.

Edward R. Strain, a graduate of the VA Training Program, Duke University, has been appointed to the staff of VA Regional Office, Indianapolis, Indiana.

Alvin E. Winder has transferred from VA Hospital, Downey, Illinois, to the position of Chief Clinical Psychologist, VA Regional Office, Miami, Florida.

William A. Zielonka has resigned from the staff at VA Regional Office, Baltimore, Maryland.

Vocational Counseling

Manual N. Brown, a vocational adviser, VA Hospital, Vancouver, Washington, has been reassigned as Chief, Vocational Counseling Service, at that hospital.

Andrew W. Foley, formerly at the University of Seattle, has been appointed as Chief, Vocational Counseling Service, VA Hospital, Walla Walla, Washington.

Harry Haselkorn, vocational adviser, VA Hospital, Bronx, New York, has been reassigned as Chief, Vocational Counseling Service, at that hospital.

John L. Holland, formerly a faculty member of Western Reserve University, has been appointed as Chief, Vocational Counseling Service, VA Hospital, Perry Point, Maryland.

Peter Kaufmann, a graduate of the VA Clinical Psychology Training Program, University of Wisconsin, has been appointed to the staff of VA Hospital, Downey, Illinois.

Harold Klehr, formerly at Great Lakes Naval Hospital, has been appointed to the staff of VA Hospital, Downey, Illinois.

Morse P. Manson, vocational adviser, VA Hospital, Long Beach, California, has been reassigned as Chief, Vocational Counseling Service, at that hospital.

Karl V. Schultz, a graduate of the VA Clinical Psychology Training Program, University of Southern California, has been appointed to the position of Chief, Vocational Counseling Service, VA Hospital, Oakland, California.

Jerold D. Scott, a graduate of the VA Clinical Psychology Training Program, University of Chicago, has been appointed as Chief, Vocational Counseling Service, VA Hospital, Houston, Texas.

Peter J. Napoli, clinical psychologist, VA Hospital, Montrose, New York, has been reassigned as Chief, Vocational Counseling Service, at that hospital.

Joseph Stubbins, psychologist, Jewish Vocational Service, Cincinnati, Ohio, has been appointed to the staff of VA Hospital, Montrose, New York.

Stanley D. Needelman, clinical psychologist, VA Hospital, Northport, New York, has been reassigned as Chief, Vocational Counseling Service, at that hospital.

Carlton E. Wilder, research psychologist, Chanute Air Force Base, Illinois, has been appointed to the position of Chief, Vocational Counseling Service, VA Hospital, Oteen, North Carolina.

Samuel F. Klugman, a graduate of the VA Clinical Psychology Training Program, University of Pennsylvania, has been appointed to the staff of VA Hospital, Coatesville, Pennsylvania.

Sylvester C. Ficca, clinical psychologist, VA Hospital, Lebanon, Pennsylvania, has been reassigned as Chief, Vocational Counseling Service, at that hospital.

Charles F. Dienst, vocational adviser, VA Hospital, Ft. Bayard, New Mexico, has been reassigned as Chief, Vocational Counseling Service, at that hospital.

M. F. Hyde, vocational adviser, VA Center, Wadsworth, Kansas, has been reassigned as Chief, Vocational Counseling Service, at that hospital.

John W. Scanlan, vocational adviser, VA Hospital, Downey, Illinois, has been reassigned as Chief, Vocational Counseling Service, at that hospital.

Charles Rodell, a graduate of Pennsylvania State College, has been appointed to the staff of VA Hospital, Downey, Illinois.

The **Richmond Professional Institute** has announced the appointment of Alvis W. Jeffreys, Jr. and Henry Winthrop as assistant professors in psychology and the promotion of Walter A. Woods to associate professor of psychology. The School of Clinical and Applied Psychology of the Institute will have the following faculty members during the academic year 1953–54: Vytautas J. Bieliauskas, director and professor; Walter A. Woods, associate professor; William E. Cook, Alvis W. Jeffreys, Jr., Harold Lindner, John J. McMillan, and Henry Winthrop, assistant professors; Jack Boger, Reuben S. Horlick, William H. Kelly, Cyril R. Mill, Murray G. Mitts, and Walter Riese, lecturers.

At the **Mental Health Institute, Mt. Pleasant, Iowa**, Selma Helfand, Frank Duffy, and Leo Gold-

berger have joined the staff as intern psychologists. Leonard Goodstein, assistant professor of psychology at the State University of Iowa, is consultant. Ralph Nelson is chief psychologist and Joseph B. L. Klass is staff psychologist.

Rohrer, Hibler & Replogle have announced the following appointments to their staff: **Bill T. Meyer** to the Detroit office and **Jack T. Huber** to the regional office in New York City.

The **Chicago Psychological Institute** has announced the following changes in staff: T. G. Grygier has resigned as clinical associate to continue as Rockefeller Fellow at Harvard University. Rosslyn Gaines has left for Italy, and J. W. Sanderson has replaced her as part-time clinical psychologist. Dr. Sanderson will continue his affiliation with the University of Illinois in Chicago. Elaine Dorfman, of the Counseling Center of the University of Chicago, has accepted an appointment as part-time child therapist. Helen K. Durkin and Frances Tabin are remedial instructors, working under the supervision of Johanna Krout-Tabin. Abraham Levinson has accepted an appointment as consultant in neuropediatrics, and Frederick Steigmann as consultant in psychosomatic medicine. Theodore J. Dulin continues as psychiatric consultant on cases receiving counseling.

The Social Science Research Council will offer awards in the following categories in 1954: research training fellowships, to predoctoral students who have completed all degree requirements except thesis and to postdoctoral students preferably not over 35 years old; grants-in-aid of research, to mature social scientists, not candidates for degrees; faculty research fellowships, to young faculty members who have already made significant research contributions; and undergraduate research stipends, to students about to complete the third year of study toward the bachelor's degree. Awards are made annually in the spring, and applications should be filed in the late autumn or early winter. For further information write to Elbridge Sibley, Social Science Research Council, 726 Jackson Place N.W., Washington 6, D. C.

During the academic year 1954–55 the **National Science Foundation** will select over 700 students with special abilities in science for a year of graduate scientific study. The closing dates for receipt of applications are December 15, 1953, for postdoctoral applicants and January 4, 1954, for graduate students working toward advanced degrees. The fellowships are awarded to American citizens who will begin or continue their studies at the graduate level in the mathematical, physical, biological, medical, and engineering sciences during the 1954–55 academic year. The majority of the fellowships will go to graduate students, but a limited number of awards will be made to postdoctoral applicants. Graduating college seniors in the sciences who desire to enter graduate school are encouraged to apply. Applications may be obtained from the Fellowship Office, National Research Council, Washington 25, D. C.

Three $4,000 **postdoctoral fellowships in statistics** are offered for 1954–55 by the University of Chicago. The purpose of these fellowships, which are part of a program supported by the Rockefeller Foundation, is to acquaint established research workers in the biological, physical, and social sciences with the role of modern statistical analysis in the planning of experiments and other investigative programs, and in the analysis of empirical data. The closing date for application is February 15, 1954; instructions for applying may be obtained from the Committee on Statistics, University of Chicago, Chicago 37, Illinois.

Twenty-five fellowships are offered by the American Association of University Women to American women for advanced study or research during the academic year 1954–55. In general, the $2,000 fellowships are awarded to young women who have completed residence work for the PhD degree or who have already received the degree; the $2,500–$3,500 awards to the more mature scholars who need a year of uninterrupted work for writing and research. Unless otherwise specified, the fellowships are unrestricted as to subject and place of study. Applications and supporting materials must reach the office in Washington by December 15, 1953. For information and instructions for applying, address the Secretary, Committee on Fellowship Awards, American Association of University Women, 1634 Eye Street N.W., Washington 6, D. C.

The **Educational Testing Service** is offering for 1954–55 its seventh series of research fellowships in psychometrics leading to the PhD degree at Princeton University. Open to men who are acceptable to the graduate school of the University, the two fellowships each carry a stipend of $2,500 a year and are normally renewable. Fellows will be

engaged in part-time research in the general area of psychological measurement at the offices of the Educational Testing Service and will, in addition, carry a normal program of studies in the graduate school. Competence in mathematics and psychology is a prerequisite for obtaining these fellowships. The closing date for completing applications is January 15, 1954. Information and application blanks will be available about November first and may be obtained from the Director of Psychometric Fellowship Program, Educational Testing Service, 20 Nassau Street, Princeton, New Jersey.

The American Personnel and Guidance Association 1953 awards for research in guidance and personnel work were presented to **Fred E. Fiedler** and **Kate Senior** for their work entitled "An Exploratory Study of Unconscious Feeling Reactions in Fifteen Patient-Therapist Pairs," which was published in the *Journal of Abnormal and Social Psychology,* to **Edmund G. Williamson** and **Donald Hoyt** for their Study on "Measured Personality Characteristics of Student Leaders," published in *Educational and Psychological Measurement,* to **Edward K. Strong, Jr.** and **Anthony C. Tucker** for their study on "The Use of Vocational Interest Scales in Planning a Medical Career," published in *Psychological Monographs,* and to **William E. Martin, John G. Darley,** and **Neal Gross** for their "Studies of Group Behavior: II. Methodological Problems in the Study of Interrelationships of Group Members," published in *Educational and Psychological Measurement.*

The National Science Foundation has recently awarded to **T. C. Schneirla,** the American Museum of Natural History, a research grant of $16,500 for a two-year study of "The Development of Behavior Patterns in Lower Mammals," and **F. D. Sheffield,** Yale University, a grant of $11,550 for a three-year study of "A Comparison of Autonomic and Skeletal Instrumental Learning."

The Social Science Research Council has announced the award of grants-in-aid of research to the following persons: **Maurice F. Freehill,** professor of psychology and education, Western Washington College of Education, Bellingham, for research on performance bias as a measure of attitude; **Albert H. Hastorf,** assistant professor of psychology, Dartmouth College, for a study of generalized social sensitivity (empathy); **S. O. Roberts,** professor of psychology and education, Fisk University, for research on the relation of sex, race, and social background to test reactions of ten-year-old children in Southern cities; and **James M. Sakoda,** assistant professor of psychology, University of Connecticut, for study of individual differences in psychological experiments.

The **Southwestern Psychological Association** has been established to meet the need for a regional organization of psychologists in Mexico and the southwestern part of the United States. All members of the APA residing in Missouri, Kansas, Oklahoma, Arkansas, Louisiana, Texas, and Mexico have been invited to join the association as charter members. Preliminary bylaws have been drafted and election of officers will take place this fall. The first meeting of the association will be held in conjunction with the annual meeting of the Texas Psychological Association at the Gunter Hotel, San Antonio, Texas, December 3–5, 1953. Although only psychologists residing in the states listed here have been contacted by letter, any member of the American Psychological Association is eligible to join the Southwestern Psychological Association. Further information and application forms may be obtained by writing to Dr. Wayne H. Holtzman, Department of Psychology, University of Texas, Austin, Texas.

The **First Interamerican Congress of Psychology** will be held at the University of Santo Domingo, December 10–20, 1953. Sixty delegates from all American countries, including 15 from the United States and Canada, will present papers. Applications by U. S. and Canadian citizens for membership in the Interamerican Society of Psychology and for possible election as delegates to the Congress should be sent with curriculum vitae, in triplicate, to Dr. Werner Wolff, Vice-President of the Interamerican Society of Psychology, Department of Psychology, Bard College, Annandale-on-Hudson, New York.

At its 1953 annual meeting the Division of Counseling and Guidance voted to change its name to the **Division of Counseling Psychology.**

The **American Board of Examiners in Professional Psychology, Inc.,** now consists of the following officers and members: Donald G. Marquis, president; Harold C. Taylor, vice-president; Noble H. Kelley, secretary-treasurer; Reign H. Bittner, Stanley G. Estes, Anne Roe, Ruth S. Tolman, Austin B. Wood, and C. Gilbert Wrenn. All correspondence regarding the Board should be addressed to the secretary-treasurer, Dr. Noble H.

Kelley, Department of Psychology, Southern Illinois University, Carbondale, Illinois.

The Army has recently published Technical Manual 12–260, **Army Personnel Tests and Measurement,** a greatly expanded version of an earlier (1946) edition. The manual is directed to military personnel who are concerned with the policies and operations of the Army personnel system, and is intended to provide an understanding of basic principles and techniques. It was produced by the joint efforts of the staff of the Personnel Research Branch, Personnel Research and Procedures Division, The Adjutant General's Office. A. G. Bayroff was responsible for the planning, organization, and synthesis of the content and for the final writing; E. A. Rundquist was continuously consulted and contributed several of the chapters; and Emma Brown and Bertha Harper assisted in the writing and in the editorial and technical review. Copies may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., at $.55 a copy.

The Journal of Counseling Psychology is scheduled to release its first issue early in 1954. C. Gilbert Wrenn, University of Minnesota, is the editor, and Frank M. Fletcher, The Ohio State University, the managing editor. Donald E. Super, Columbia University, and Paul Dressel, Michigan State College, are associate editors. Emphasis in the journal will be placed upon well-designed research in counseling theory and practice with an occasional article which systematically surveys significant professional developments in the field. The subscription price is $6.00 per year for four issues. Subscribers may address their requests to Dr. Frank M. Fletcher, Journal of Counseling Psychology, Inc., Room 2, Old Armory, The Ohio State University, Columbus 10, Ohio.

Twelve Ohio school psychologists attended a **workshop at Ohio State University** June 29 to July 17. The workshop, sponsored jointly by the Department of Psychology and the Bureau of Special and Adult Education in cooperation with the Division of Special Education, the Ohio State Department of Education, attempted to acquaint school psychologists more fully with local, state, and national resources by utilizing representatives of the organizations as consultants. The group wrote a bulletin entitled "The Psychologist in the School." To obtain copies of the bulletin, write to the director of the workshop, Dr. Harold R. Phelps, Bureau of Special and Adult Education, 321 Arps Hall, The Ohio State University, Columbus 10, Ohio.

The **Child Adjustment Center** in Patchogue, New York, financed in part by the New York State Education Department, has been established to provide diagnostic and psychotherapeutic aid to children in rural schools of the area. Therapy will be carried out by a staff of psychologists including Leonard J. Schwartz, director, Ruth S. Pasternack, Louis Lauro, and Grace Keith. Under the auspices of the School of Education of New York University, a psychologist intern, Margaret Doty, will also function with the clinic team. Ruth Joldersma will serve as full-time psychiatric social worker, and Gerald Niles will serve as part-time psychiatric consultant.

Several **Guidance Centers** are being established in underprivileged neighborhoods in New York City. The Board of Consultants for the Centers includes Molly R. Harrower, Albert Ellis, Rose Palm, Josephine Ross, and Max Rosenbaum. Psychologists serving at the Convent Avenue Guidance Center are Edward Dalton, Harold Fink, Hyman Chernow, Allan Pope, and others.

American's initial nonhospital **Drug Addicts Anonymous** group, a philanthropic New York City community project, has been formed by Joseph Rosenfield, Jr., and Harold Kenneth Fink has been appointed consultant and chairman.

The **Child Study Center at Yale University** is successor to the Yale Clinic of Child Development which was directed by Arnold Gesell until his retirement from Yale in 1948. The Center, a department of Yale University, carries on an interdisciplinary program for research, training, and community service in which there is a close tie with other departments of Yale: psychology, education, psychiatry, and pediatrics. Milton J. E. Senn, Sterling Professor of Pediatrics and Psychiatry, is director of the program. Staff members, with few exceptions, have multiple appointments, with a primary appointment in either the Center or the department they represent. Undergraduate, graduate, and postdoctoral students in psychology, education, medicine, and nursing comprise the group coming for teaching in child development. Occasionally special students are admitted for research as well as training.

Convention Calendar

American Psychological Association: September 3–8, 1954; New York City
For information write to:
Dr. Fillmore H. Sanford
1333 Sixteenth Street N. W.
Washington 6, D. C.

International Council for Exceptional Children (Regional meeting): November 1–4, 1953; Portland, Oregon
For information write to:
Harley Z. Wooden, Secretary
1201 Sixteenth Street N.W.
Washington 6, D. C.

National Society for Crippled Children and Adults: November 12–14, 1953; Chicago, Illinois
For further information write to:
The National Society for Crippled Children and Adults
11 South La Salle Street
Chicago 3, Illinois

American Occupational Therapy Association: November 13–20, 1953; Houston, Texas
For information write to:
Miss Marjorie Fish, Executive Director
American Occupational Therapy Association
33 West 42nd Street
New York 18, N. Y.

Southwestern Psychological Association: December 3–5, 1953; San Antonio, Texas
For information write to:
Dr. Wayne H. Holtzman
Department of Psychology
University of Texas
Austin, Texas

Texas Psychological Association: December 3–5, 1953; San Antonio, Texas
For information write to:
Dr. Ernestine B. Blackwell
State Department of Health
Austin 1, Texas

Interamerican Congress of Psychology: December 10–20, 1953; University of Santo Domingo
For information write to:
Dr. Werner Wolff
Department of Psychology
Bard College
Annandale-on-Hudson, New York

American Association for the Advancement of Science: December 26–31, 1953; Boston, Massachusetts
For information write to:
Dr. R. L. Taylor, Associate Administrative Secretary
1515 Massachusetts Avenue N. W.
Washington 5, D. C.

American Society of Human Genetics: December 26–31, 1953; Boston, Massachusetts
For information write to:
Sheldon C. Reed
Dight Institute for Human Genetics
University of Minnesota
Minneapolis 14, Minnesota

American Group Psychotherapy Association: January 15–16, 1954; New York City
For information write to:
George Holland, Executive Secretary
American Group Psychotherapy Association
228 East 19th Street
New York 3, N. Y.

Ontario Psychological Association: January 29–30, 1954; Ottawa
For information write to:
E. T. Alderdice, Secretary-Treasurer
100 St. George Street
Toronto 5, Ontario
Canada

Eastern Psychological Association: April 9–10, 1954; New York City
For information write to:
Dr. G. Gorham Lane
Department of Psychology
University of Delaware
Newark, Delaware

Midwestern Psychological Association: April 29, 30, May 1, 1954; Columbus, Ohio
For information write to:
Dr. Lee J. Cronbach
Bureau of Research and Service
University of Illinois
1007½ South Wright Street
Champaign, Illinois

Western Psychological Association: May 20–22, 1954; Long Beach, California
For information write to:
Dr. Leona Tyler
Department of Psychology
University of Oregon
Eugene, Oregon

International Congress of Psychology: June 7–12, 1954; Montreal, Canada
For information write to:
Dr. H. S. Langfeld
Eno Hall
Princeton University
Princeton, New Jersey

THE WORK OF THE COUNSELOR

Leona E. Tyler

THIS book is suitable both as an introductory text for students planning to go into counseling and as a help to partially trained counselors. Focusing major emphasis on what occurs during the counseling interview, the book includes special chapters on decision-making, psycho-therapeutic interviews, the selection and training of counselors, and the counselor's relationship to other personnel workers. The text is illustrated by case material based on the author's counseling experience. References for further reading and study are included. *Just Published.*

THE ACHIEVEMENT MOTIVE

David C. McClelland
Russell A. Clark
John W. Atkinson
Edgar L. Lowell

THIS book reviews a great variety of experiments undertaken to establish the validity of a new method of investigating human motivation. The authors have approached the problem from the standpoint of experimental psychology, but have focused attention upon one of the most fruitful clinical methods—analysis of phantasy. Results are documented by empirical evidence, and other current theories of motivation are critically discussed.
To be published in November.

PSYCHOLOGICAL STUDIES OF HUMAN DEVELOPMENT

Raymond G. Kuhlen
George G. Thompson

THESE seventy-one articles consider the psychological changes which take place in human behavior from infancy to old age, the larger number of which is devoted to childhood and adolescence. It is also oriented toward the many physical and social conditions that influence the cause of psychological growth and behavior. Visual aids, tables, case histories, and references are included. *533 pp., $3.50*

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THE AMERICAN PSYCHOLOGIST

The Professional Journal of the American Psychological Association, Inc.

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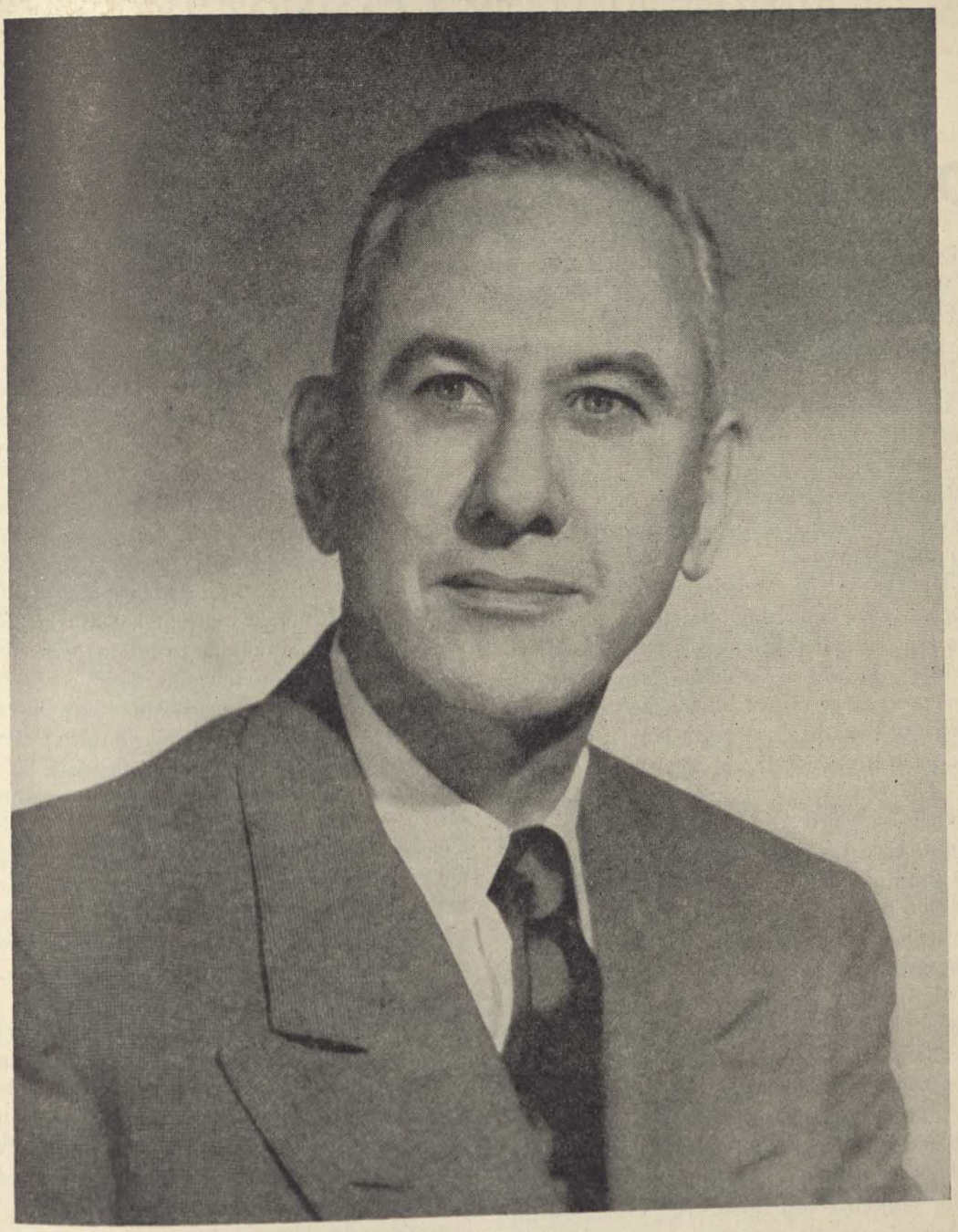
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LAURANCE F. SHAFFER

Teachers College, Columbia University

President of the American Psychological Association, 1953

OF WHOSE REALITY I CANNOT DOUBT[1]

LAURANCE F. SHAFFER

Teachers College, Columbia University

PSYCHOLOGISTS, like other men, live according to their perceptions of reality. What they perceive as real they believe, and are thereby governed in their actions both as persons and as members of their science and profession. The culture of psychology, at least of contemporary American psychology, shares many common beliefs. We are all empiricists. We look to observations for our knowledge, not to the authority of the past. We are determinists, and believe that every consequent which we observe has been brought about by its sufficient antecedents. In the main, we are ontogenists, believing in the orderly nature of developmental sequences.

Within the core of common beliefs held by psychologists, some important variations also exist. When experimental psychologists view the sequential changes in behavior which accompany activity or experience, they do not all see the same things. To some of them habit strength is real, to others, reflex reserve, or closure, or sign-gestalt expectation. The experiments we are willing to perform, the results on which we focus our attentions, and, in consequence, the conclusions which we draw, are in no small part influenced by these private realities. Our being scientists does not entirely surmount our attitudinal frames of reference.

Among the several dimensions of belief in which psychologists vary, one of great scope may be singled out for closer consideration. In the framework of a common empiricism, some of us find the most convincing reality in our *immediate* observations. That which is real and truly believed is sensed and felt at first hand: the word, the gesture, the blush, the unique configuration of responses on a subtle projective test, produced by another human being in the direct presence of the observer. Let us call this attitude *intuitive;* it is the preference for knowing by immediate and direct processes without intervening steps of formal interpretation.

In contrast, other psychologists place their trust in *mediated* observations. The raw stuff of experience is ordered and quantified, and is reduced to neat columns of numerical data. When so arranged the observations can be expressed with precision and brevity in terms of central tendencies and variances, can be compared with other data, and, most importantly, can be subjected to tests of statistical significance. For a convenient and simple designation, let us call the belief in mediated and ordered experience the *objective* attitude.

The issue between the intuitive and the objective must not be mistaken for a difference between pure and applied psychology. It crosses the lines of both. There are intuitive theorists, including not only Freud but also, among others, the distinguished line of thinkers from Brentano to the modern Gestaltists. Objectively oriented theorists are of course numerous. Applied psychologists may be either intuitive or objective. We see as intuitive the psychotherapist who is enjoined to listen with his third ear to the echoes within himself of the nuances of his client's feelings. Equally a practitioner is the objective personnel psychologist constructing an aptitude test, deeply concerned with item discriminations and with expectancy tables for prediction, who perhaps never sees a single human being to whom his test is administered.

The issue is permeating and it is warm. One characteristic of a strong personal belief is the emotional fervor with which it is held and the equally emotional animosity with which its opponents are condemned. Objectively oriented persons are likely to call intuitive people "sentimental," and "wishful," and "unscientific." The latter retort that the objectivists are "cold," and "narrow," and "unimaginative." These epithets bring no solutions and no mutual understandings.

Argument will not convert an objectivist into an intuitivist or vice versa, for the very fact that the considerations advanced by one side do not seem real and credible to the other. It is a matter of values. In place of arguing, many leaders in psychology have asked for scope and tolerance and for

[1] Address of the President of the American Psychological Association, Cleveland, Ohio, September 4, 1953.

a fusion of the two viewpoints. This worth-while plea has been made in the past, frequently and ably (1, 5, 10, 11, 12). I shall not repeat it.

If we cannot resolve the intuitive-objective issue by arguments or pleas, is there anything else we can do about it? As psychologists, we have another resource. We can gather more information about the attitudes, study their distribution in a defined population, and examine some of their relevant correlates.

Such a research study has been carried out and is here reported to you, without evaluations or exhortations. It is offered in the spirit of a Kinsey report on one particular segment of the psychologist's mind. This taxonomic approach draws no morals. No praise and no blame accompany the enumeration of the psychologist's attitudinal outlets, be they—shall we say?—heteroceptive or homoceptive.

THE INVESTIGATION

The essential design of the study can be summarized very briefly. First, a scale was constructed to measure attitudes ranging from intuitive to objective. Second, a refined version of the attitude scale was administered to psychologists who also supplied biographical information about themselves. Anonymous mailed questionnaires were used for both of these steps. The responses were analyzed so as to test a series of preformulated hypotheses about the relationships between the attitude scores and certain past and contemporary life experience variables.[2, 3]

Population and samples. The population studied was the membership of the Division of Clinical and Abnormal Psychology, Division 12, of the APA. Certain other populations would have served as well. The intuitive-objective issue exists among theoretical and experimental psychologists; Gestaltist and behaviorist schools differ in this respect. Almost surely, teachers of psychology vary in attitude; private realities govern much of their selection of what to teach and how to teach it. Evidences of attitudinal variation also are found among developmental, educational, industrial, and social psychologists. It seemed wise, however, to use a relatively homogeneous population, the clinical psychologists, so that questions about their attitudes, their training, and their work could be expressed in terms relevant to all respondents. It is not assumed that only clinical psychologists vary from intuitive to objective in their attitudes, but neither is it supposed that the findings obtained necessarily apply to other groups.

From the total membership of Division 12, two geographically stratified samples were drawn. A first sample of 200 was used for the standardization of the attitude scale. In all, a 72 per cent reply was received from the first sample; the 120 responses received within two weeks after the mailing were used for the analysis to select internally consistent attitude items for the final form.

The second sample of 500 was drawn by a systematic geographical stratification with one additional control, that the psychologists queried had supplied full biographical information in the 1951 APA Directory. It was necessary to draw 571 names in order to obtain 500 which fulfilled this condition. Certain information from the Directory entered into the statistical analyses of the study and also permitted a comparison of the responding and nonresponding subsamples. The second sample received the main questionnaire consisting of the revised attitude scale and the biographical questions. The final return was 79 per cent. Of these, the 342 responses returned within three weeks, 68 per cent of the sample, were analyzed.

The two samples were large, including 14 per cent and 35 per cent, respectively, of the defined population. The 342 respondents analyzed in the main study did not differ from the remaining 158 members of the sample who replied late or not at all, even at the .20 level of significance, in any of several relevant variables: in sex, in highest earned degree, in Associate, Fellow, or diplomate status, or in the proportions working in universities, in hospitals and clinics, or in private practice. The responding group was therefore shown to be representative of the entire sample. It may be pre-

[2] The investigation was supported in part by a grant from the Dean's Faculty Research Fund of Teachers College. In the formulation of the study helpful suggestions were received from Harrison G. Gough, Irving Lorge, Edward Joseph Shoben, Jr., and Donald E. Super, and from Willis C. Schaefer, Chairman of the APA Committee on Questionnaires.

[3] Copies of the two questionnaires have been deposited with the American Documentation Institute. Order Document No. 4098 from ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington 25, D. C., remitting in advance $1.25 for microfilm or $1.25 for photocopies. Make checks payable to Chief, Photoduplication Service, Library of Congress.

sumed with reasonable confidence that the respondents were also representative of the entire membership of Division 12.

An expression of gratitude is due to the 538 psychologists who participated in the study. It is they, not I, who report to you some of the biographical correlates of psychologists' attitudes. The respondents' task was not an easy one. The attitude scale demanded that they express agreement or disagreement with a number of controversial statements, intentionally phrased in positive and unqualified terms. Many middle-of-the-road psychologists, who like to state their opinions in moderate and qualified language, found the attitude scale a frustrating experience, even an exasperating one. A few wrote notes to tell me so. In spite of this real source of irritation, the respondents showed a cooperative and understanding spirit which made the study possible.

The attitude scale. The core of the study was an instrument designed to measure attitudes conceived as varying from intuitive to objective. The final version of the attitude scale contained 15 items of the Likert (16) type. Each item was a positive statement to which the subject could respond by indicating *strongly agree, agree, uncertain or undecided, disagree,* or *strongly disagree.*

The instrument was developed by the usual methods for the construction of a Likert scale. The questionnaire returned by the first group of psychologists contained 30 items of several types. The internal consistency of each item was expressed as the biserial correlation between dichotomized item responses and the total attitude score. The coefficients were obtained by Flanagan's method using the extreme 27 per cents of the total score distribution (6, 7). The 15 items finally selected had satisfactory internal consistency, a good spread of responses, and a negligible number of rejections. They were homogeneous in form. In the first group, their biserial coefficients of internal consistency ranged from .68 to .37, with an average of .55. The corrected split-half reliability of the 15 items was .76 both in the preliminary group of 120 and in the main group of 342.

To avoid the unnecessary complexities of a dual system of scoring, a convention was adopted that low numerical scores indicated intuitive attitudes and high numerical scores meant objective attitudes. Responses to objectively biased statements were scored from 5 for *strongly agree* to 1 for *strongly disagree;* intuitively biased items were scored in the opposite order. No evaluations were implied by this procedure.

Some further characteristics of the scale can be seen by examining the data for a few items. Figure 1 shows the percentages of respondents in the main group who agreed and disagreed with five items. Responses of *strongly agree* and *agree* were combined, as were those of *strongly disagree* and *disagree.* Responses of *uncertain or undecided* are not plotted. The three bars for each item represent the most intuitive 27 per cent according to total score (*I*), the middle 46 per cent (*M*), and the most objective 27 per cent (*O*).

The first item shown in Fig. 1 read in full:

1. The time which graduate students of clinical psychology now spend learning research methods would be more profitably spent in obtaining first-hand clinical experience.

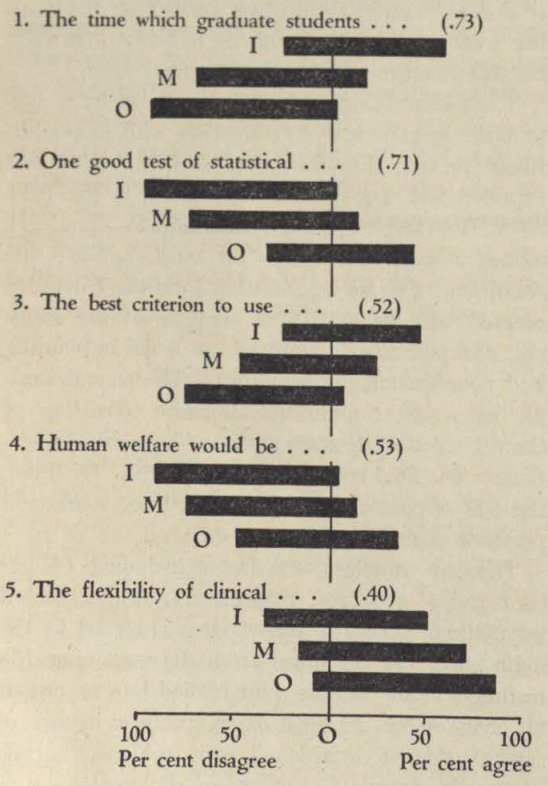


FIG. 1. The discriminative power of five selected attitude items. The bars indicate the percentage of agreement and disagreement among the most "intuitive" 27% of the sample (*I*), defined in terms of total attitude score, the middle 46% (*M*), and the most "objective" 27% (*O*).

Fifty-nine per cent of the intuitive extreme agreed with this statement, while 94 per cent of the objective subgroup disagreed with it.

The second item represented in Fig. 1 read:

2. One good test of statistical significance is more convincing than a lot of clinical intuitions.

Here, only 1 per cent of the intuitive tail of the distribution agreed, but 43 per cent of the objectively oriented subjects subscribed to the statement. These two items, labeled 1 and 2 in Fig. 1, were the most discriminative and had internal consistency coefficients with the entire score of .73 and .71, respectively. These data were drawn from the main group of 342, which was a cross-validation sample with respect to the item validities.

Items 3 and 4 in Fig. 1 were representative of items of medium discrimination power with coefficients of .52 and .53. They read:

3. The best criterion to use in clinical research is the judgment of an experienced and sensitive clinician.

4. Human welfare would be advanced if all psychologists paid more attention to research and less attention to practice.

Item 3, intuitively biased, received agreement from 47 per cent of the intuitive subgroup and from 6 per cent of the objective end of the distribution. Item 4, worded with the objective slant, was agreeable to 3 and 35 per cent of the extremes.

The graphs of items 1 through 4 show that most of the respondents held moderate attitudes. The modal response was to disagree with extreme assertions, no matter whether they were phrased intuitively or objectively. The percentages of disagreement with these four items, in the entire sample, were 64, 69, 48, and 72. These data show why the attitude scale was a vexing task to the majority of respondents, who felt impelled to express their disagreement with extreme statements phrased in both directions.

Several moderate statements, expressing qualified, intermediate, or contingent viewpoints were included in the preliminary form. These evoked high degrees of agreement, but did not show good empirical discriminative power, a finding which is understandable both logically and statistically. One such item was retained in the final form, in spite of its relatively low discriminative power, to gauge the general degree of agreement with a moderate position. The words were taken verbatim from an article by Cronbach on statistical research with the Rorschach (4, p. 393). It is represented as the fifth item in Fig. 1, and read:

5. The flexibility of clinical thinking creates excellent hypotheses, but these hypotheses can only be established as true by controlled studies.

Seventy per cent of all respondents agreed with this statement, a proportion exceeded by no other item. Disagreement with this statement is ambiguous, of course, and might represent either a low opinion of the goodness of clinical hypotheses or a lack of faith in controlled studies. Empirically, the moderate discrimination of the item was in the direction of agreement being associated with an objective attitude.

The biographical items. The main questionnaire contained three pages of biographical items in addition to the revised attitude scale. The content of these items is cited in the section describing the results. Each biographical question represented one or more hypotheses about the relationships of the intuitive-objective attitude to experiences in past or present personal history. No attempt was made to be subtle or deep. Most questions demanded information ordinarily regarded as factual. Several items were designed to test the hypothesis of *identification:* that the respondent's attitudes bore systematic relationships to the perceived characteristics of certain significant other persons in his past and present life. In addition to the information furnished directly by the respondents, certain data from the 1951 APA Directory were analyzed. A numerical coding system permitted the use of the Directory information while preserving the anonymity of the respondents.

Methods of analysis. The results of the study were analyzed by three methods. All conclusions were drawn from t tests of the significance of the differences between means. Each test was made between the mean attitude score of the respondents reporting a certain biographical datum and the mean of all others who did not report that datum.

For example, the mean attitude score of respondents reporting that they chose psychology as a life work because of "interest in understanding yourself better" (Fig. 2) was 41.24; the mean of all others was 44.59. The difference of 3.35, divided by its *SE* of 1.14, yielded a t of 2.94, significant at the .002 level of confidence.

Since directional hypotheses had been formulated in advance, one-tailed tests of significance were applied. Differences significant at or below the .02

level were regarded as failing to support a null hypothesis.

Two supplementary methods of analysis were used. In the sample as a whole an "intuitive" subgroup was defined as the 27 per cent whose attitudes were most extreme in the intuitive direction; an "objective" subgroup was similarly defined as the most objective 27 per cent. The percentages of subjects giving each response, who fell in the so-defined intuitive and objective extremes, appear in Figs. 2–17. These percentages also provided common-sense actuarial or expectancy data for gauging the overlapping of groups and the practical implications of the findings.

The third method of analysis was the coefficient of biserial correlation between the attitude score and the dichotomous variable of giving or not giving each biographical response. These *r*'s were obtained for each variable which showed a significant *t* by means of tables based on the extreme 27 per cents of the normal bivariate distribution (6). Arbitrarily, coefficients in the objective direction were called plus, in the intuitive direction, minus.

SOME BIOGRAPHICAL CORRELATES OF PSYCHOLOGISTS' ATTITUDES

The biographical data analyzed in relation to the intuitive-objective attitudes included information about the professional training of the respondents and about their work history, present positions, and professional duties. Some other variables were age, sex, and a few facts of life history antecedent to graduate education.

Professional Training

Eleven of the biographical items asked for information about the respondents' professional education and training.

Reason for choosing psychology. What led these men and women to choose psychology as a lifework? Figure 2 shows their answers. Subjects who accepted the statement "Interest in understanding yourself better" were significantly more intuitive in their attitudes. Those who marked "Interest in theory and research" were more objective. Those who expressed "Interest in service to people" did not differ significantly from the entire sample.

Figure 2 is constructed in the same way as Figs. 3 to 17, which show the results of the study. The bars show the distribution of the attitudes of the respondents who chose

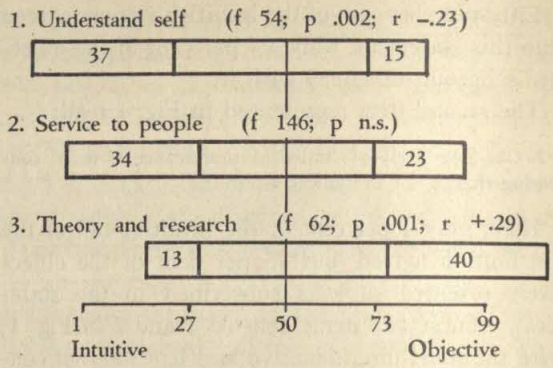


FIG. 2. Reason for choosing psychology. The relationship between intuitive-objective attitude and the reason for first choosing psychology as a lifework. The numeral following *f* gives the number of respondents giving each response; the *p* value is based on the *t* of the difference between mean attitude scores of those giving and not giving the response; the *r* is the biserial correlation between attitude score and giving or not giving the response.

the several alternatives. The bars are of equal length, each indicating 100 per cent of those who gave a designated response. The center of a bar is placed above the percentile, for the entire sample, which corresponds to the mean of the subgroup. With reference to the top bar of Fig. 2, the mean attitude score of the "understand self" group, 41.24, fell at the 36th percentile of the entire sample. Therefore, the top bar was centered above the 36th percentile of the reference axis, the abscissa. The numbers superimposed on a bar show the percentage of the subgroup who were "intuitive" at the left and who were "objective" at the right. These categories were defined in terms of the most intuitive 27 per cent and the most objective 27 per cent of the entire sample. The figure shows that, in the "understand self" group, 37 per cent were "intuitive" and 15 per cent were "objective" as so defined. The unlabeled middle area of a bar shows by its length the percentage of subjects giving this response who fell in the middle 46 per cent of the attitude scores.

Some other numerical data are given in each figure. The number labeled *f* shows how many subjects gave the response; *p* is the probability value, obtained from *t*, of the significance of the difference between the attitude score mean of subjects giving this response and the mean of all other subjects; *r* is the biserial correlation between the response and the attitude score. Thus, the response "understand self" was given by 54 subjects, whose mean attitude differed from others at the .002 level; this response correlated −.23 with the attitude variable, the correlation being in the intuitive direction.

In the questionnaire item whose results are shown in Fig. 2, and in most other items as well, a respondent could reject all of the prescribed alternatives and mark "other" as his response. In no instance did the response group which chose "other" differ significantly in attitude from the rest of the sample. Therefore no further reference is made to the "other" category.

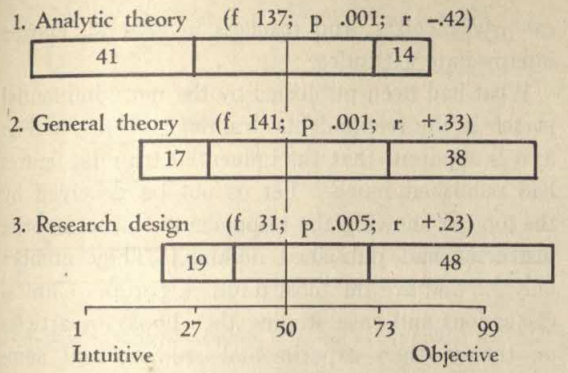


FIG. 3. Most significant graduate subject. The relationship between attitude score and responses to the question, "What subject seemed most significant and challenging to you?"

What do the results shown in Fig. 2 mean? One conclusion seems to confirm the widespread belief that persons who have themselves experienced psychological distress tend to be more intuitive, perhaps more sensitive, in relation to the distresses of others. It may also be concluded that interest in service is not essentially associated with either intuitive or objective attitudes. Psychologists who say that they were interested in theory and research at the outset of their careers remain faithful to this objective.

Most significant subject. "While you were a graduate student," the respondents were asked, "which one of the following subjects seemed most significant and challenging to you?" Not unexpectedly, the results in Fig. 3 confirmed the hypotheses that absorption in dynamic or psychoanalytic theory was associated with intuitive attitudes, while those who expressed greatest interest in general, research-based psychological theory, and in research design and statistical analysis, held more objective viewpoints.

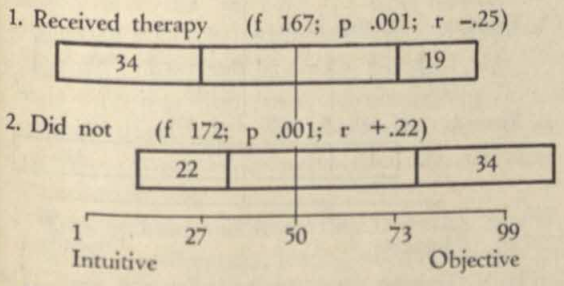


FIG. 4. Having received psychotherapy. The attitudes of respondents who had, and had not, received psychotherapy for training or for any other reason.

Having received psychotherapy. Almost exactly half of the sample had received psychotherapy, for training or for some other reason. The data in Fig. 4 supported the hypothesis that psychotherapy cultivated an intuitive frame of reference. The item also asked for the type of psychotherapy received—group, nondirective, analytic, or eclectic. No hypotheses were held, and no significant differences in attitude were found, among those receiving the several kinds of therapy.

Most influential writer. Several hypotheses of this investigation were derived from the concept of identification. Among highly literate people strong identifications may be made with great books. Accordingly, the question was asked, "What one writer's books, or articles, have been most significant in influencing your theory and practice as a psychologist? Think of this writer by name and answer these questions about him (or her):" Figure 5 shows the reported profession and the reported main lifework of the most influential writer. The results were positive, with some of the largest biserial correlations found in the study. If the

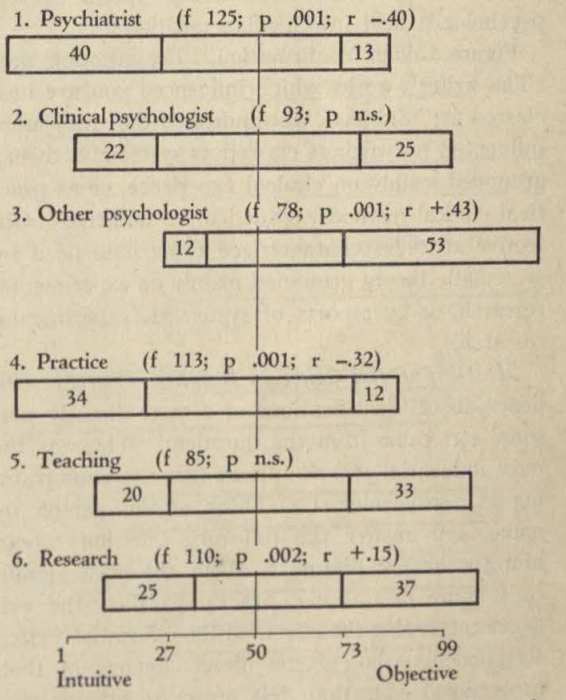


FIG. 5. Influential writer: his profession and work. The relationship between intuitive-objective attitudes and the profession (1, 2, 3) of the writer who most influenced the respondents, and the relationship with his main lifework (4, 5, 6).

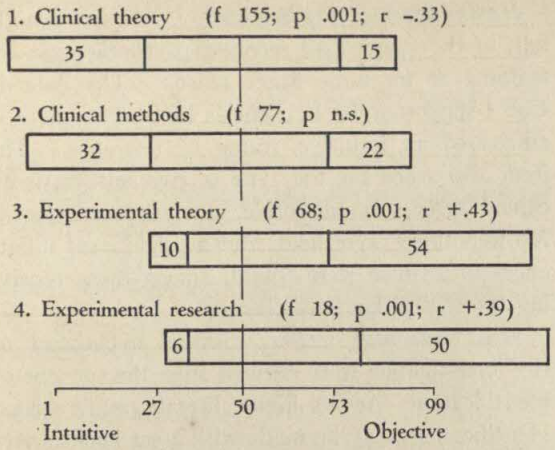


FIG. 6. Influential writer: his writings. The relationship between attitudes and the classification of the type of writing which characterized the author who most influenced the respondents.

writer was a psychiatrist, or if his main work was practice, intuitive attitudes were associated. Objective attitudes were connected with writers who were general, nonclinical psychologists, and with authors whose main work was research or teaching. Respondents whose favorite author was a clinical psychologist held intermediate attitudes.

Figure 6 offers confirmation. The question was, "The writer's works which influenced you are best classed as:" Subjects who indicated that they were influenced by writings classed as systematic theory grounded mainly on clinical experience, or as practical clinical methods, tended to be intuitive. Objective attitudes characterized those influenced by systematic theory grounded mainly on experimental research, or by reports of systematic experimental research.

Most influential figure in training. Further evidence about identifications of a more directly personal sort came from the question: "Who was the most influential and significant figure in your training as a psychologist? Think of this person by name, and answer the following questions about him (or her):" Figure 7, about the most significant figure in training, exactly parallels the evidence concerning the effects of the influential writer. Respondents who, in the direct contacts of their professional education, felt nearer to psychiatrists and to persons in practice showed more intuitive attitudes. More objective attitudes, again, were found in subjects whose identifications were with general psychologists and research workers. Clinical psychologists, and teachers in general, evoked intermediate attitudes.

What had been published by the most influential person in the respondents' training? First, in Fig. 8, it is apparent that the influential training figures had published much. Let us not be deceived by the top bar showing the respondents whose favorite instructor had published nothing. They number only 32, and are the most intuitive group. Clinical discussions and case studies, then books or articles on theory, then experimental studies, and summaries of research follow in order as the association shifts from the intuitive to the objective attitude.

Highest earned degree. An analysis was made of the intuitive-objective attitudes of the respondents who had earned a doctoral degree, in comparison with those who had not done so. The doctoral group tended to be more objective in attitude, the nondoctoral more intuitive. These data are shown in Fig. 17 in connection with the analysis of another variable. The nondoctoral group must not be regarded as consisting of "MA psychologists." The membership requirements of Division 12 set a

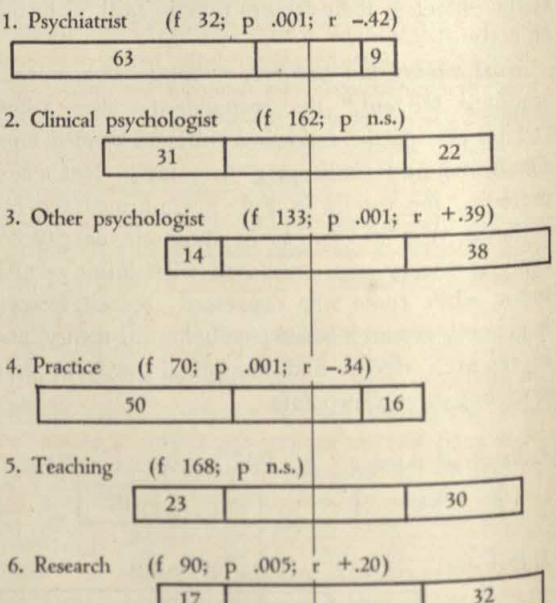


FIG. 7. Training figure: his profession and work. The relationship between attitudes and two attributes of "the most influential and significant figure in your training": his profession (1, 2, 3) and his main lifework (4, 5, 6).

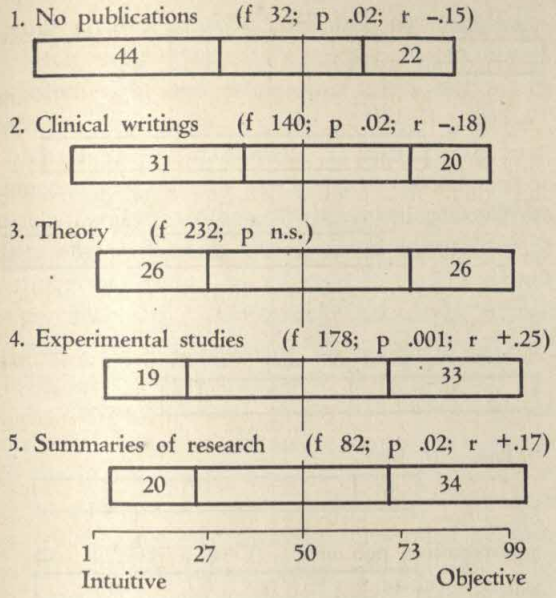


FIG. 8. Training figure: his writings. Intuitive-objective attitudes in relation to the reported writings of the most influential and significant figure in the respondents' training. The sum of the frequencies exceeds 342 because respondents could check all alternatives that were applicable.

minimum of two years of graduate study. Many of the nondoctoral respondents had probably completed all requirements for the doctorate except for the dissertation. The lack of the research dissertation is perhaps a relevant concomitant of their more intuitive attitudes.

Professional Positions and Activities

Ten biographical items were concerned with the respondents' professional work history, present positions, and current professional activities.

Professional positions. Four somewhat overlapping questions probed the relationship between the respondents' professional work and their intuitive-objective attitudes. Only one of these items is shown in detail, in Fig. 9. The question was, "What is your one major professional activity at present?" Psychologists who reported that their main duty was diagnosis or psychotherapy held intuitively-tinged attitudes. Research was strongly associated with an objective attitude, teaching a little less so.

Two indices, one from the Directory and one from the questionnaire, identified psychologists who were in private or individual practice. Twenty-five per cent of the respondents were engaged in some amount of private practice; 12 per cent of them

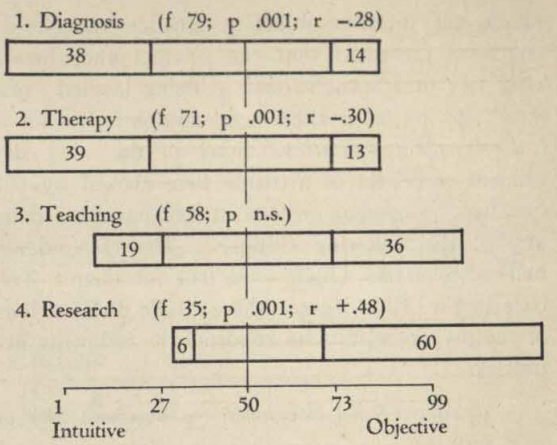


FIG. 9. Principal professional duty. The relationship between attitudes and the respondents' one principal professional duty.

reported it as their major work. The attitudes of the private practitioners did not differ significantly from those of psychologists who practiced in medical or nonmedical institutions. The results, in so

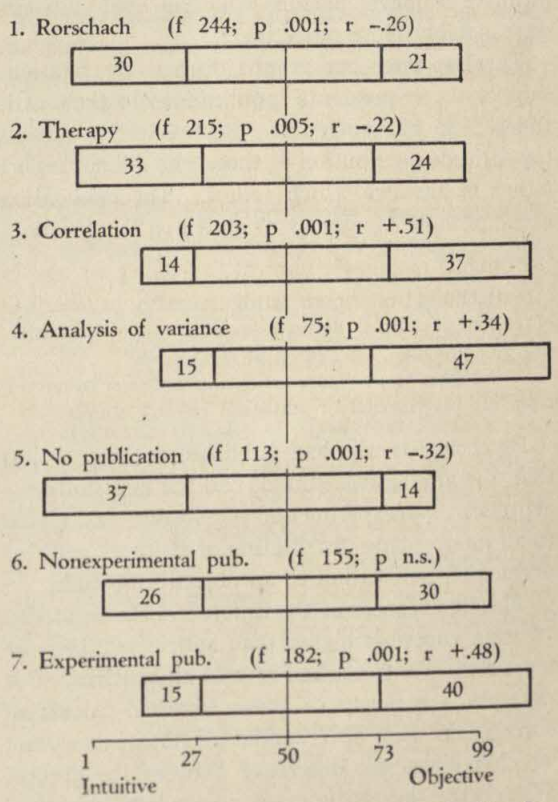


FIG. 10. Professional activities. The relationship between attitudes and responses to the question, "Since you were a student have you done any of the following things?" Respondents checked all alternatives that applied.

far as the intuitive-objective attitude variable is concerned, revealed that the private practitioners were like other practitioners. Being labeled "private" did not make them a group apart.

Professional activities. Some of the most significant correlates of attitude were evoked by the question, "Since you were a student have you done any of the following things?" The respondents marked all items which were true for them. The bars in Fig. 10 represent the attitude distributions of the psychologists who reported the following activities:

1—Administered and interpreted the Rorschach fifty or more times

2—Carried on psychotherapy, of ten or more sessions, with each of thirty or more persons (patients, clients)

3—Calculated a coefficient of correlation, ten or more times

4—Calculated an analysis of variance, ten or more times

The results showed that the attitudes of the psychologists were relevant to their activities. The Rorschach examiners and the psychotherapists had intuitive leanings; persons who had used statistics were notably more objective.

The last three bar graphs disclose the relationship of the respondents' publications to their attitudes. The bar labeled "5—No publication" shows the attitude distribution of those who did not report either of the two which follow. The publication accomplishments, exactly as stated on the questionnaire, were:

6—Published two or more articles, as author or co-author, of a nonexperimental nature, reporting theory, discussion, case interpretation, description of method, etc.

7—Published two or more articles, as author or co-author, reporting experimental or statistical research studies

Psychologists who had published nothing, or less than the alternatives stated, had the most intuitive attitudes. Nonexperimental publication was related to an intermediate distribution of attitudes, and experimental publication to an objective attitude.

The significances of the differences shown in Fig. 10 were somewhat higher than anticipated, because most respondents marked several alternatives. For example, a majority of those who had calculated correlations had also conducted therapy, a fact which reduced the difference between the groups. What were the attitudes of respondents who had done only *one* of these things, in comparison with those who had done *both?* The answer to this question, shown in Fig. 11, contained an unhy-

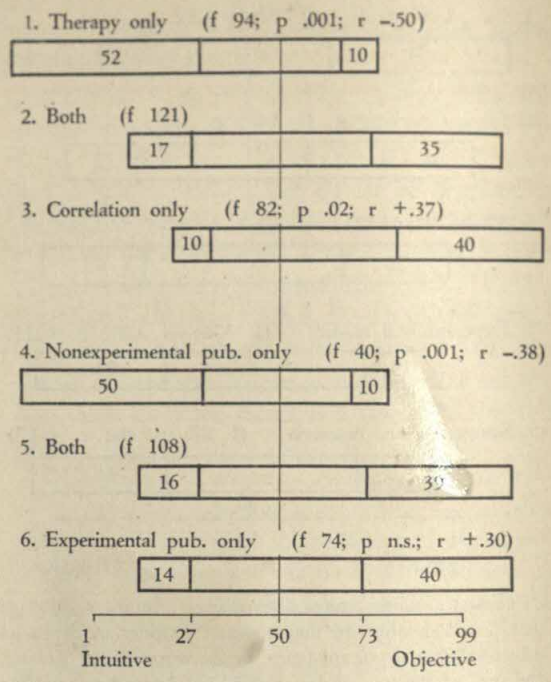


FIG. 11. Further analysis of professional activities. In this figure the *p* values relate to the mean attitude differences between those who had done one indicated activity *only*, and those who had done *both*. For example, nonexperimental publication differs from "both" at the .001 level; the difference between experimental publication and "both" is not significant.

pothesized finding which therefore requires cross-validation. Psychologists who had carried on therapy, but who had not calculated correlation were highly intuitive in attitude. Persons who had done *both* were nearly as objective as those who had calculated correlations only without engaging in psychotherapy. The same conclusion, in even more striking form, is revealed by the bottom three bars of Fig. 11. Writing only nonexperimental articles was associated with highly intuitive attitudes. But psychologists who had published both nonexperimental and experimental articles were just as objective as the ones whose writings had been solely in the experimental-statistical field. These data suggest the very challenging interpretation that an experimental or objective attitude was prepotent over an intuitive one. Doing research or statistics established an objective view, even though the person also engaged in intuitively oriented pursuits. If this is a dependable finding, the only way to maintain an intuitive attitude would be to stay away from research altogether. Conversely, an ob-

jective attitude could be nurtured by doing some research, even though its possessor also conducted psychotherapy and wrote case-interpretation articles.

School of psychotherapy. It has already been demonstrated that the psychologists who carried on psychotherapy had more intuitive attitudes. Were there any systematic differences in attitude which distinguished those who adhered to various schools of psychotherapy? The question asked was, "Which 'school' most nearly describes your practice of psychotherapy? Mark one; please do not be concerned with minor differences." Figure 12 shows that the analytically oriented therapists were most intuitive. In the questionnaire, a distinction was made between orthodox, Freudian psychoanalysis and other analytically oriented therapies illustrated by such names as Adler, Horney, Jung, and Sullivan. The Freudian and other analytic groups did not differ significantly in attitudes. The client-centered or nondirective group was intermediate in its distribution of attitudes, the eclectic next, and the nontherapists were most objectively oriented.

Most admired colleague. The hypothesis of identification was tested by the question, "What one professional person, with whom you have had contact in your work, have you admired and respected most? Think of this person by name and answer these questions about him (or her):" Figure 15 shows that respondents who identified in their work with physicians, with clinical psychologists, or with persons engaged in practice, tended to display intuitive attitudes. Objective attitudes were associated with identifications with nonclinical psychologists and with persons whose major work was research.

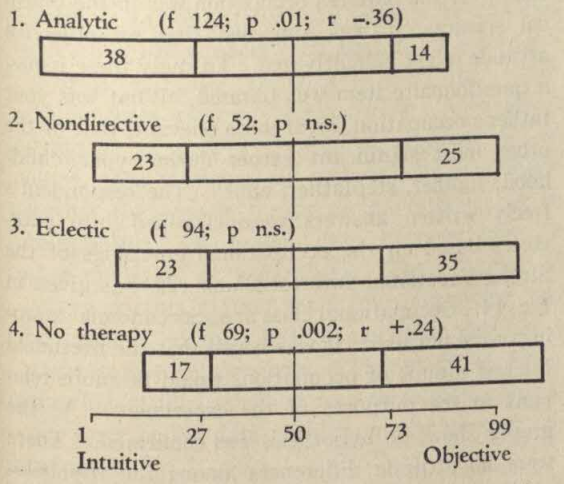


FIG. 12. School of psychotherapy. Attitudes in relation to the "school" which most nearly describes the respondents' practice of psychotherapy. The "no therapy" group comprises the respondents who reported that they did not engage in psychotherapy.

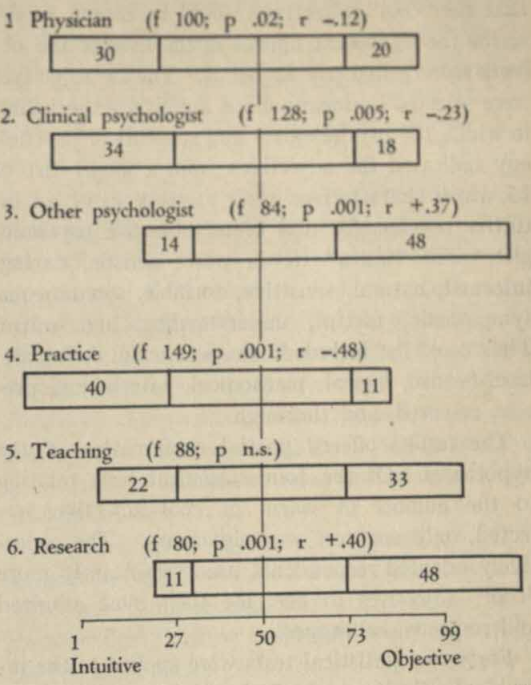


FIG. 13. Admired colleague: his profession and work. The relationship between intuitive-objective attitudes and the reported profession (1, 2, 3) and main work (4, 5, 6) of the one professional person, with whom the respondents have had contact in their work, who is most admired and respected.

Adjectival Descriptions of Significant Persons

The biographical blank contained a short adjective checklist (8, 9) designed for a further analysis of the concept of identification. Each respondent was asked to select from a list of 21 adjectives the ones which best described the most significant person in his training and, separately, the adjectives which best described his most admired and respected colleague.

The 21 adjectives were arranged alphabetically, but were conceived as falling into two groups, "warm" and "cool" (2). Broadly, it was hypothesized that the "warm" adjectives would be used to characterize the identifications of the psychologists with intuitive attitudes, and conversely,

that the "cool" adjectives would be chosen to describe the significant figures in the lives of the objectively oriented psychologists. The 21 adjectives were selected by means of an auxiliary experiment, in which 103 psychologists and students of psychology indicated the adjectives from a longer list of 75 which characterized their stereotypes of an intuitive psychologist and of an objective psychologist. The "warm" words were: artistic, daring, informal, natural, sensitive, sociable, spontaneous, sympathetic, tactful, understanding, and warm. The "cool" list included: cautious, cool, deliberate, hard-headed, logical, methodical, painstaking, precise, reserved, and thorough.

The results offered partial confirmation of the hypotheses. Of the four statistical tests relating to the number of warm or cool adjectives selected, only one test was significant. The objectively oriented respondents used significantly more "cool" adjectives to describe their most admired and respected colleagues.

Forty-two statistical tests were applied to the individual adjectives, of which 10 were significant at or below the .04 level in the predicted direction and none in the unpredicted direction. The results clearly exceeded chance although they were not as strongly established as the other biographical findings cited. The ten significant adjectives were:

The intuitive respondents described the most important figure in their training as more *sensitive, sympathetic,* and *understanding.* The objective subjects said that their most influential instructor was more *hard-headed.*

The most admired and respected colleague of the intuitive psychologists was reported as more *artistic.* The favored colleague of the objective respondents was pictured as more *precise, methodical, hard-headed, logical,* and *thorough.*

These descriptions make sense, and add some support to the theorem that the attitudes of psychologists bear a positive relationship to their professional identifications, both during their graduate education and afterward.

A Few Background Variables

The other variables investigated included five biographical items chronologically antecedent to professional training, and the basic census data of age and sex.

Father's occupation. A psychologist's attitudes might be supposed to bear some relationship to his father's occupation. Before the data were obtained it was hypothesized that the home atmosphere provided by a parent who was in social service, literary, journalistic, or legal occupations would be conducive to the development of intuitive attitudes. If the parent's occupation was in the physical sciences, it was supposed that an objective attitude might be cultivated. To study these issues, a questionnaire item was phrased, "What was your father's occupation, or, if more relevant, that of the other most significant earner during your childhood: mother, stepfather, etc.?" The respondent's freely written answers were classified into categories based on the occupational groupings of the Strong Vocational Interest Blank (20), as given in Fig. 14. Occupational class or socioeconomic groupings were not used; it was hoped that the presumed interest groups of occupations would be more relevant to the purposes of the experiment. As the graphs show, no hypothesis was confirmed. There were no attitude differences among the psychologists when they were classified according to their father's occupations, with one striking exception which was in the direction opposite to that hypothesized. The children of fathers in social serv-

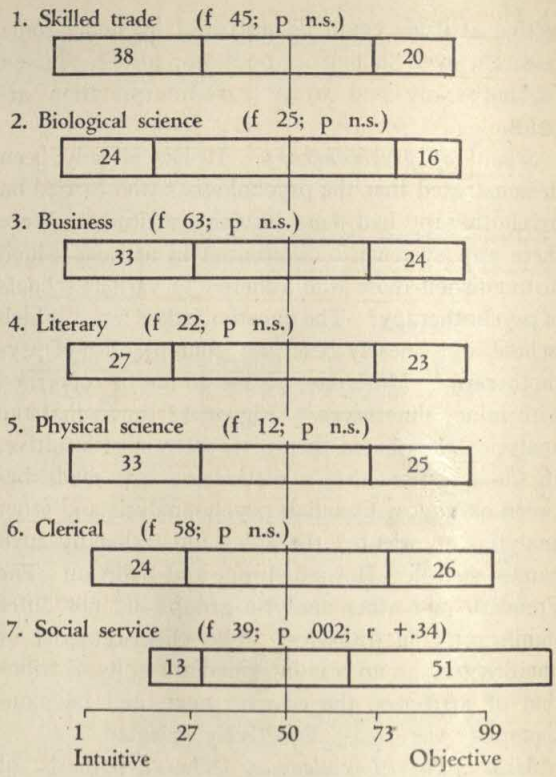


FIG. 14. Father's occupation. The relationship between attitudes and a classification of the occupations of the fathers of the respondents.

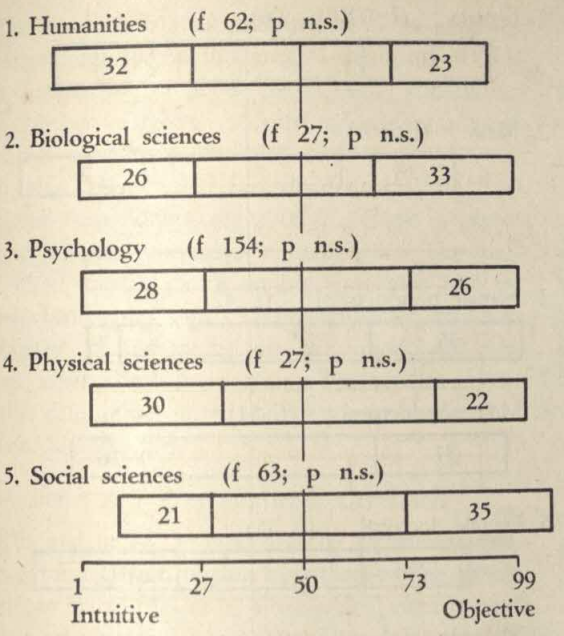


FIG. 15. Undergraduate major subject. The respondent's major subject of study in his undergraduate years is unrelated to his attitude.

ice occupations—ministers, social workers, teachers of social subjects, and the like—turned out to be more, rather than less, objective.

What does the finding mean? One tempting explanation derived from clinical theory is that these psychologists had rebelled against the attitudes of their parents and that their viewpoints were determined by negativism or hostility, not by positive identification. A parallel may perhaps be adduced from Anne Roe's report (18) that 14 eminent psychological scientists reacted with more than usual rebelliousness against their parents. A manifest advantage of such a theoretical approach is, of course, that it makes all observations intelligible whether they are in the predicted direction or in the opposite. The present data, however, gave no other evidences of negativism. The offspring of literary parents did not rebel into objectivity, nor the children of the physical scientists develop a compensatory intuitiveness. The plausible interpretation of filial rebellion was therefore indicated only once in the data, among several possible instances.

Undergraduate studies. There were no significant attitude differences between the subgroups of respondents whose undergraduate majors were in various academic fields, as Fig. 15 shows. Here again, greater intuitiveness among students majoring in humanities and social sciences had been hypothesized, along with greater objectivity on the part of those who came to psychology via the physical sciences. The hypotheses were not supported by the data.

A closely related item on the questionnaire was phrased, "In college and graduate school did you have substantial training of twenty or more semester hours in: 1—Humanities (including philosophy, literature, languages); 2—Social sciences; 3—Mathematics and physical science." Respondents could mark all that applied; some of them marked all three. The results, which are not shown on a graph, were decisively negative. These fields of study had no differential relationships to the attitude criterion.

The findings from these two questions fail to support the beliefs that social and humanistic studies foster intuitiveness, and that the rigors of mathematical thinking inevitably breed objectivity. On the other hand, the data give us no reason to fear that our students' sensitivities will be contaminated by contact with mathematics, or their objectivity impaired by exposure to the humanities.

Early vocational aims and experiences. A possi-

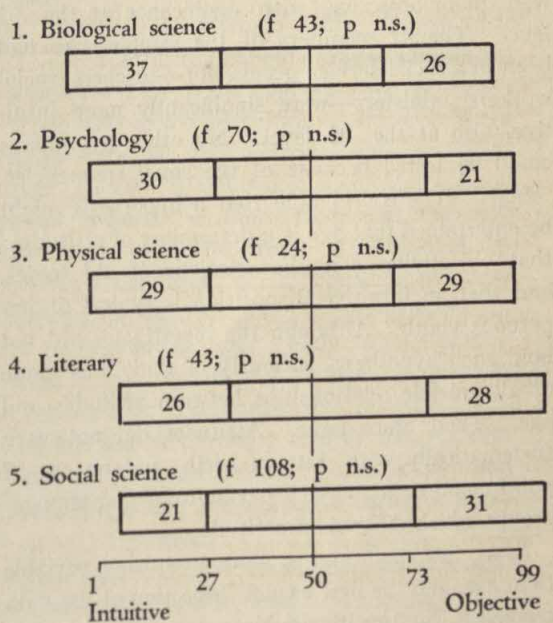


FIG. 16. Early vocational aim. There is no relationship between attitudes and the classification of responses to the question "What was your vocational aim at the end of your second year of college?"

ble correlate of the intuitive-objective attitude is the psychologist's early vocational aim. At the end of his second year of college, what occupation was he thinking of entering? It was hypothesized in advance that social and literary aims would be associated with intuitiveness and that aspirations toward the physical sciences would tend toward objectivity. Figure 16 shows the fate of these assumptions; there were no significant differences at all. The data also permit a test of a generalization sometimes offered without evidence, that intuitive psychologists are frustrated would-be physicians. This was not confirmed; the attitudes of those who first aspired to the field of medicine did not differ significantly from the others.

Another question asked was, "Did you ever pursue a major occupation other than psychology, excluding temporary or part-time work or military service?" The respondents could indicate "only psychology" or could name their other vocation. The results were limited and are not shown graphically. There was only one occupational category other than psychology which had been entered by more than 4 per cent of the sample. Still, the question yielded two statistical significances, one hypothesized in advance, and the other not. The 181 persons who had no occupation except psychology were more objective, with significance at the .02 level. The 92 members of the sample who had been in a social service occupation—teachers, social workers, ministers—were significantly more intuitive, also at the .02 level. No other hypotheses could be tested because of the small frequencies.

Age. It is conceivable that a hypothesis might be entertained that age is a determiner of attitudes: that objectivity is a characteristic of old fogies, and that an intuitive disposition is typical of impetuous youth. Although the investigator did not hold such hypotheses seriously, a study was made of all possible relationships between attitudes and age. There were none. Attitudes did not vary systematically with date of birth, and no cut-off point could be found to separate older and younger groups which differed in attitude.

Sex. Sex might be a more promising variable than age, and the first casual inspection of the data seemed to confirm its significance, as shown by the top two bars of Fig. 17. The women psychologists had a more intuitive average score. Here was the traditional role of woman, if not exactly soothing

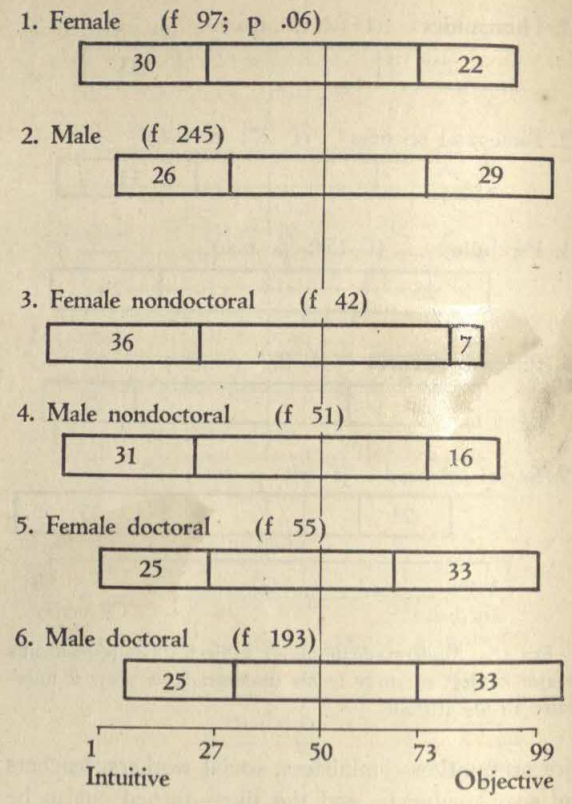


FIG. 17. Sex, and interaction of sex and degree. Sex seems slightly related to attitudes, but the relationship becomes nonsignificant when the factor of highest earned degree is held constant. Psychologists of either sex who have earned the doctor's degree differ in attitude from those who have not received the degree, the difference being significant at the .001 level.

the fevered brow of pain, at least holding the sweaty hand of anxiety.

More acute analysis of the data contradicted the first impression, however. Of the 97 women psychologists in the sample, 57 per cent held a doctoral degree; of the 245 men, 79 per cent had received the doctorate. The proportion of women in the sample and the proportion of each sex having a doctoral degree were not inconsistent with data reported for the APA membership as a whole (19).

The gross sex difference was significant only at the .06 level. Furthermore, as the four lower bars of Fig. 17 show, its significance disappeared when the variable of highest earned degree was controlled. The attitudes of the male and female nondoctoral psychologists did not differ significantly, nor did the attitudes of the men and women with doctor's degrees.

The need to control training level in order to evaluate correctly the influence of sex upon attitude raised some doubts about the possible contamination of other variables. Accordingly, several major variables relating to training and to professional work were recomputed for the doctoral and nondoctoral respondents separately. These analyses did not change any major conclusions. The findings cited for the entire sample were also true for the doctoral subgroup. The conclusions were also supported, in the main, for the nondoctoral subgroup, when the lower response frequencies in this smaller sample permitted confidence to be placed in tests of significance.

Professional and Preprofessional Correlates

It is instructive to compare the significant findings obtained from testing hypotheses lying within the three broad classes of biographical data studied —data relating to experiences during graduate education and training, data about professional work and activities, and data concerning antecedent variables which predated entrance into psychology. The inventory of significances is limited to the hypotheses formulated in advance, and omits findings which were discovered after the data had been obtained. The data from the adjective checklist, which have been discussed separately, are also excluded.

Twenty-six hypotheses were tested by biographical questions relevant to the professional education and training of the respondents. Five of these hypotheses were not confirmed significantly, while 21 hypotheses, 81 per cent of them, were confirmed at or below the .02 fiduciary level. Fifty-eight per cent of these hypotheses were confirmed at or beyond the .001 level.

Similarly affirmative results came from the items about the respondents' professional positions and activities. Of 31 hypotheses tested, 25, again 81 per cent, were significant at or below the .02 level, 52 per cent of them at or below the .001 level. Not a single test was significant in the direction opposite from that hypothesized.

In striking contrast were the results of testing hypotheses about the earlier background variables. In this area, 13 hypotheses were formulated in advance, of which 11 were found nonsignificant, 1 significant in the hypothesized direction, and 1 in the direction opposite from that originally proposed. These results lead to only one defensible conclusion, that no consistent or useful relationships were uncovered between the intuitive-objective attitude and any investigated datum antecedent to entrance in professional training.

The conclusion is forced upon us. The psychologists' attitudes on the intuitive-objective scale were highly related to the training they received and to the work they have done. The attitudes were quite unrelated to a number of apparently promising variables which pertained to earlier aspects of their lives.

THE PSYCHOLOGIST'S PERCEPTION OF REALITY

What is, and what determines the psychologist's perception of reality? The data now permit us to draw some conclusions relevant to the questions which evoked the study.

First, it is evident that clinical psychologists as a whole cannot be labeled as intuitive or objective. They are both and neither. The mean total attitude score of the sample, 44.06 points, differed by an insignificant fraction of a scale point from the absolute logical midpoint of the scale, 45 points. Psychologists stand in the center and show their moderation by rejecting extreme attitudes in either direction.

The dispersion of attitude scores is not very great. The arbitrarily defined intuitive and objective subgroups used in the analysis were the terminal 27 per cents of the distribution. But even these subgroups were not very extreme when examined by other criteria. Membership in either of these subgroups required no more than that the psychologist stand about two-thirds of a standard deviation from the mean, or in logical terms, only one-third of the way from the position of *uncertain* toward the position of *agree*. Only 26 respondents, less than 8 per cent of the sample, obtained a score representing a response of *agree* with every item on one side of the issue, and of *disagree* with every oppositely phrased item. No one at all made a score approaching the stand of *strongly agree* with either alternative.

Psychologists therefore stand revealed as a subculture with considerable unity. We are not separated into two functional groups as are the social workers and the social scientists, the engineers and the physicists, or the physicians and the physiologists. We are one science and one profession.

Within the unity of psychology, however, the data do reveal some relative differences. The intuitive-objective attitude scale is probably a meaningful variable as attested by its numerous significant relationships with other attributes. What does it mean in the light of the findings and of reasonable speculations based on them? Two broad families of hypotheses might be examined in the attempt to press deeper into the significance of intuitive-objective variation. First, it might be held that the attitudes arise from personality differences of scope and durability which permeate many other aspects of the psychologists' lives. Second, the attitudes might be interpreted as social roles, as organizations of behavior functionally relevant to the statuses or positions which the psychologists hold in society.

The premise that personality variables determine the intuitive-objective attitude is an attractive one, and was given serious consideration when this study was being planned. It was abandoned because so few likely and specific hypotheses could be formulated for testing. From a cross-sectional view, how would we hypothesize the personality of the intuitive or the objective psychologist? Which is more the introvert or the extravert, the tough-minded or tender-minded, the anxious or poised, the adventurous or withdrawn? Reasonable hypotheses do not seem to emerge from such questions.

Should a longitudinal view have been taken in an attempt to establish antecedents of the intuitive or objective attitudes? What hypotheses should be tested? Would it have been profitable to ascertain whether the objective psychologist was more precipitously toilet trained, or whether the intuitive one was more warmly nurtured by his mother? Perhaps. But no such hypothesis carries the ring of conviction. An exploratory study would be necessary to discover promising questions to ask, and a cross-validation to confirm their significance. It is likely that the results would be meager.

Previous attempts have not been promising. Kelly and Fiske (14) did not find relationships between clinically measured personality variables and various criteria of success in training in clinical psychology. Differential interest patterns have been found between clinical and other psychologists on both the Strong and the Kuder inventories (3, 14, 15), but these results are readily interpreted in terms of the self concepts inculcated and demanded by cultural roles. Anne Roe (17) reported that the Rorschach records of clinical psychologists contained more human movement, human, and human detail responses, perceptions which suggest that they are more interested in people. Indeed they are. In the present study, the absence of significant correlates of the attitude variable with any experiences prior to graduate study is also relevant. At least, no permeating influences of personality, which might have determined the intuitive-objective attitude, also showed visible effects upon early vocational aims and choices or upon the subjects selected for study in college.

Personality variables may not determine the psychologist's perception of reality, then, but may cut across it in random directions. The intuitive psychologist, or the objective one, may be cocksure or self-critical, authoritarian or democratic, imaginative or pedestrian. He may show these traits in the style in which he carries out either role, but the traits may not determine his professional attitudes.

In contrast to the meager evidence that personality variables determine psychologists' attitudes, the evidence supporting a role theory is impressive. First, the training of the young psychologist shapes the direction of his sense of reality. He is rewarded in both direct and subtle ways for perceiving things as do the significant figures in his life. Speaking in terms of averages, the intuitive-psychologist-to-be receives psychotherapy, is fired by clinically oriented writers, and identifies with idealized persons who are in practice. The embryo objectivist has his corresponding alternative experiences. Let us not ignore the obvious. In the nonclinical field, the clearest reason that makes a psychologist a Hullian, a Skinnerian, or a Tolmanite is that he studied under one of these men or under one of their followers, or else that he read their books and articles just as he had a need to clarify and systematize his psychological viewpoint. The origins of the intuitive or the objective attitude are probably similar.

Later, the psychologist strengthens his role by his relationship to the reference group with which he works. He finds the perception of direct experience rewarding to him as he interprets Rorschachs and carries out psychotherapy. Perhaps even more importantly he values his status as a member of a group which does these things and possesses these

attitudes. The relative objectivist in his turn receives his reinforcements from controlled studies, and from *t* tests, and from a reference group consisting of teachers and researchers.

Psychologists, then, behave like human beings. They hold their perceptions of reality for the same broad reasons which apply to the rest of mankind. In formative years they develop the beliefs which are inculcated by the culture in which they are nurtured. As full participants in a social role, they continue to adhere to the views supported by the culture in which they function. In these respects, psychologists are quite like tribal chiefs in New Guinea, or like small town bankers in Iowa. All learn their roles, and play them, in a reinforcing culture.

The conclusion may be stated in another way. Perhaps *all* believe in what they have experienced directly, but the nature of the direct experience differs from one psychologist to another. The intuitivist has had direct experience in face-to-face contacts with people; the objectivist has had his direct experience with experimental designs and statistical analyses. From this viewpoint, there is no mediated experience. All of us believe in the immediate.

Rather objectively and somewhat laboriously, this study has reached its end. But sixty-three years ago, an insightful man—intuitively I am sure, for he was no experimenter—arrived at substantially the same conclusion. As he pondered on man's perception of reality, William James wrote (13, p. 298):

"Whatever things have intimate and continuous connection with my life are things of whose reality I cannot doubt."

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Charles W. Bray (1954–57) [5]
J. McV. Hunt (1954–57) [5]
William A. Hunt (1954–57) [5]

Social Science Research Council

Douglas McGregor (1952–54)
Ernest R. Hilgard (1953–55)
Carroll L. Shartle (1954–56)

American Documentation Institute

Herbert S. Conrad, 1949

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Harry Helson, 1945
Sidney M. Newhall, 1945
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Michael J. Zigler, 1950
F. L. Dimmick, 1952
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Herbert S. Langfeld, 1954

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[4] Term begins January 1954.
[5] Term begins July 1954.

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SUMMARY REPORT ON THE 1953 ANNUAL MEETING[1]

FILLMORE H. SANFORD

American Psychological Association

ON August 31, 1953, psychologists from all over the United States and Canada began descending on Cleveland for the sixty-first annual gathering of the clans. By the evening of September 9, several thousand APA members had been in and out of Cleveland and much had happened to affect both the form and content of American psychology.

Nobody knows exactly how many psychologists—or exactly what kinds—came to Cleveland. Only about 3,000 officially registered at the headquarters in the Hotel Cleveland, but, on the basis of informal sampling, the local people decided that many more came than registered. Many members checked into one of the other three hotels, and, because of the "blocked-time" system of scheduling the program, found both their affiliative and intellectual needs met under one roof. Many of these members felt it unnecessary to find or to confront the registration desk. A good estimate is that "more than 4,000" psychologists attended the meetings. To those who circulated among the various centers of activity, the number seemed greater, with many observing that Cleveland was inundated by psychologists. A few spoke of "the teeming infestation."

During the six official days of meetings, 200 psychologists read papers and 400 others were principals in symposia. Vigorous and intelligent efforts on the part of the APA and divisional program committees kept the program about the same size as last year, in spite of pressures toward expansion. Because of the hard and effective work of the Local Arrangements Committee, our 17-ring show went off without a major operational hitch. To many visitors—and to many hotel employees—it is a phenomenal sight to see a group of psychologists, with no previous experience at convention managing, pitch into the intricate task of planning, organizing, and nursing a very complex series of meetings. Observers from the hotels say that APA meetings are the best planned, best organized, and best behaved they know about.

It is, of course, impossible to summarize the events of relevance for the advancing science of psychology. An observer would have to be sextuplets to attend more than a very small proportion of the papers and symposia, and each of the sextuplets would have to have quite different training, interests, and temperament before the pooled comprehension would be worth much. It is safe to conclude, however, that each psychologist attending the meeting found nutritious matter to feed his interests. Scientific communication, both formal and informal, reached its annual zenith. Any single observer found good papers and poor papers, stimulating symposia and dull ones, significant new ideas and "pot boiling" articulations, publishable reports and scientific chaff cast into the winds of Cleveland, forever and unregrettably lost to the scientific literature. APA had a convention.

The Board of Directors convened on the morning of September 1 and for three full days and four full evenings dealt with the Association's business. The items on the Board's agenda came principally from the reports and recommendations from APA's five boards, 39 committees, and 41 representatives to other organizations. (A collection of reports, weighing 2 lbs. 8 ozs., reached each Board member prior to the meeting.) But the Board also spent considerable time on problems raised by individual members of the Association and on problems and ideas brought in by Board members themselves. There were little problems and large ones, simple problems and complex ones. No definable prob-

[1] At the Cleveland meeting, the APA Board of Directors instructed the Executive Secretary to continue the practice, initiated two years ago by the Board, of preparing a summary report on the year's work of APA boards and committees and on actions taken by the Association at its Annual Meeting. The present report is the Executive Secretary's attempt to carry out the Board's instructions. The detailed and official record of APA actions is presented in the Annual Report of the Recording Secretary, on page 646 in this issue. The reports of some boards and committees also appear in full in this issue. The present report will attempt to summarize the reports of other units of APA government. Any member who wishes a copy of a full report of any board or committee can obtain it by writing to the APA Central Office.

lem was ignored, and the little problems were often as difficult and as time consuming as the large ones, for APA Board members appear to be down with a desire to be right as well as administratively efficient; small problems touching upon large principles were not solved until the principles themselves had been clarified.

Out of the Board's deliberations came nearly 200 explicit recommendations to the Council of Representatives. These were presented, discussed, and acted on at meetings of the Council on September 5 and 8. For another year, then, psychologists have governed their Association, have handled with vigor and care the multitudinous problems arising from the attempt to make the organization most meaningful to its members and most effective in serving the society in which it exists.

PUBLICATIONS

APA is one of the world's largest publishers of scientific literature. During 1952 the organization edited, printed, and distributed 10 journals containing a total of 6,629 pages, and having a combined circulation of 58,616. Our publishing business now operates on an annual budget of about a quarter of a million dollars. Generally speaking, it is a very successful enterprise. It is financially sound and, though none can cultivate the illusion that APA has solved all the problems of scientific communication, the enterprise has to be perceived as doing very well what psychologists—its owners —want it to do.

Our publishing activities are carried on under the concerned and creative guidance of the Publications Board. During the year just completed this Board (Lee J. Cronbach, chairman) worked long and hard to gather facts and to formulate wisdom concerning both new and recurring publication problems. The report of the Recording Secretary gives facts about all the specific actions by Board and Council on the recommendations of the Publications Board. Also the Board of Directors requested that the chairman of the Publications Board and the chairman of the Council of Editors prepare soon, for publication in the *American Psychologist*, a joint report on APA publications.

The Council action probably of most interest to APA members was the decision to discontinue the practice of charging authors one-half the cost of printing special and tabular material. For manuscripts published after January 1, 1954, authors will be charged only for their own corrections in proof. And they will continue to receive 50 free offprints.

The Council also approved the recommendation of the Publications Board that APA bear all the direct expenses of APA editors and increase the editorial stipend from $600 to $1,000 per year. By the latter action the APA recognizes the increased burden of our editors and, at the same time, expresses its appreciation for the staggering and often thankless work our editors freely give to psychology.

FINANCIAL MATTERS

The Treasurer reported (detailed report is on page 671) that though APA is in relatively good financial health, we still owe nearly $100,000 on the building and we still need to build up our reserve funds if we are to give necessary stability to our large publishing business. Because of the combined economic efforts of many people we avoided a threatening deficit for 1952, ending the year with a small surplus. Our budget for 1953 anticipates an income of more than $400,000 and authorizes an expenditure of about $18,000 more than we will take in. Because not all authorized funds are spent, the real deficit for 1953, current guesses indicate, will be somewhat less than this amount and will probably be covered by the 1952 surplus.

The 1953 increase in dues for those who have been Associate members for five years or more will, in 1954, increase appreciably our income. Also our gross income will be swelled by the probable election of around 1,100 new Associates in 1954. These increases in income make possible such actions as the elimination of charges to authors.

The reports of the Treasurer and of the Recording Secretary give complete and detailed information about APA finances, past and future.

APA ORGANIZATION

APA, in its present form, is still a relatively young organization. It has not yet found what anybody regards as an optimal structure. Perhaps it never will. Perhaps it never should, for time and psychologists change, and constant revision of our organizational structure will probably be necessary if APA is to remain viably functional. This year, there were a number of actions either making, or working toward, changes in APA structure or in established modes of operating.

Ethics

Upon recommendation of the Committee on Scientific and Professional Ethics and Conduct (Gil-

bert J. Rich, chairman), the Council of Representatives approved in principle certain changes in the Bylaws to make it possible for the Committee to do its work more effectively. These changes, concerning (*a*) procedures to be followed in the case of a member convicted of a felony and (*b*) other matters of referral procedures, will be cleared with the APA attorney and submitted, according to Bylaw specifications, for the vote of the membership.

Division Finances

During the past few years, as various APA divisions have become more stably organized and more functionally significant to their members, there has been an increasing desire on the part of divisions to assume more autonomy. During the past year a number of divisions expressed a wish to retain in their own treasuries those funds which now, if not spent by the end of the year, revert to the general APA account. After full discussion, the Council of Representatives instructed the Executive Secretary to prepare, in consultation with the APA attorney, a proposal for the revision of the Bylaws to the intent that funds remaining to the credit of any division at the end of any fiscal year may, upon the request of that division and to an extent agreed upon by the division in question and the APA Board of Directors, be retained by the division for use in advancing its own purposes. This proposed change in Bylaws will be submitted for the vote of the membership.

Conference of State Psychological Associations

Early last spring more than 400 members of the Association signed a petition asking that the Bylaws be revised to make the Chairman of the Conference of State Psychological Associations automatically a member of the APA Board of Directors. The intent of the change was to ensure that the APA is constantly cognizant of the problems of state associations. The Policy and Planning Board, the Board of Directors, and the Council of Representatives recorded themselves, at the recent meeting, as opposed to the change. The Policy and Planning Board argued (*a*) that the Board of Directors "be elected with integrity and wisdom as representative of all psychology and that no part of American psychology be automatically assured a voice on *ex officio* grounds," and (*b*) that the proposed change may not be the best way to insure that the awareness of and concern for state problems, now shared by a number of APA committees and by the Central Office, would be maintained or increased.

The Board of Directors discussed the proposal at some length and, more generally, talked about the significant role that state associations will play and about ways in which APA can best facilitate the work of state associations. The Board agreed with the Policy and Planning Board that the proposed Bylaw change was not desirable, particularly at a time when the Policy and Planning Board is initiating, in collaboration with CSPA, a study of the general questions of state associations, their functions and problems.

The proposed change, with pro and con explanatory statements approved by the Council of Representatives, will be presented for the vote of the membership.

The Convention Program

In the fall of 1952, the *Ad Hoc* Committee on the Convention Program (Cecil Mann, chairman) spent two days considering what to do about our convention program. Many members feel that the magnitude and complexity of the program have already surpassed human endurance. But there are contrary pressures to have still more papers and still more symposia. The problem is a real one. The *Ad Hoc* Committee reported to the Board at its April meeting. The Board asked that the committee's analysis of the problem be communicated to all divisional officers with the plan that divisional ideas and attitudes could be expressed at the September meeting. They were expressed. The *Ad Hoc* Committee will meet again this fall, under the chairmanship of Launor F. Carter, to attempt the formulation of recommendations that have some chance of keeping at a minimum the conflicting unhappinesses about the annual program.

This year's program committee (Launor F. Carter, chairman) reported on its experiment with the "blocked-time" system of scheduling. Also the committee conducted a questionnaire study during the meetings in an attempt to determine members' attitudes about various aspects of the program. The results of this study will be made available by the *Ad Hoc* Committee.

Students

The Committee on Student Activities (Stanford C. Ericksen, chairman) reported no great activity

during the year. The Board spent a good deal of time discussing ways in which the APA could establish mutually rewarding relations with students. This discussion ended with the decision to ask the Committee on Student Activities to examine the desirability of re-establishing some manner of student membership in APA and to report its recommendations to the Board of Directors and to the Policy and Planning Board. There seems to be a general feeling that the APA should have closer and more meaningful relations with students but no one has yet found ways of implementing this feeling.

Participation in Association Affairs

Every year, particularly at the time for making up slates from which the Council elects committee members, the Board of Directors wrestles valiantly with the problem of bringing "new blood" into Association work. This year, the Board carefully selected a list of people of known ability but heretofore not deeply involved in APA affairs and commended this list to Council for special consideration in electing committee members. A number of these "new" people were elected. The practice, by the approval of the Council, will continue. In addition to this move to broaden the base of participation in organizational affairs, the Council established a new Committee on Participation in Association Affairs (Curtis M. Langhorne, chairman) and asked it to examine ways in which more of our able but "unknown" people can be brought into useful contact with APA business.

PROFESSIONAL DEVELOPMENT

After World War II American psychology was faced with the urgent problem of constituting itself as a responsible profession as well as a scientific discipline. Psychology was publicly perceived as useful. Psychologists, having strong service motivations, wanted to be useful. The invitation to accept a professional role was welcomed by many psychologists. Others reconciled themselves to it. And others opposed it. But all psychologists have been directly or indirectly involved in psychology's attempt to guide its own professional development. Perhaps no group in history ever undertook a more intricate task. Psychological services are very difficult to define. The professional jobs psychologists are called on to do have little in common with the services rendered by many of the more established professions. And psychologists as people have attitudes and aspirations quite different from those of other groups. Because psychology and psychologists are different from other professions and other professionals, we had to find unique ways of structuring and governing ourselves. And psychologists feel so keenly the responsibility involved in professional service that there was powerful motivation to move rapidly toward structuring ourselves, toward solving the problems created by being asked, as a profession, to help deal with human behavior.

We could not sit contemplatively by while the pedestrian course of history determined our future and our way of living it. We had to have standards of ethics, standards of training, standards of competence. We had to have principles to guide our relations with other professions. But we had a deep distrust of any conscience or set of principles imposed on the individual from outside his own skin and we felt a cantankerous suspicion of standards too rigid, too arbitrary, or unsupported by validating evidence. And withall we were committed to the strange and unique attempt to keep science and service on intimate speaking terms with one another. Life was almost paralyzingly complicated. But psychology moved. It continues to move. Several actions at the September meetings will be regarded by many as cardinally significant moves—moves toward *our* kind of professional maturity.

Relations with Other Professions

The Council of Representatives adopted unanimously a set of principles, formulated by the *Ad Hoc* Committee on Relations with Other Professions (E. Lowell Kelly, chairman) and edited by the Board of Directors. (An early draft of the principles was published in the May, 1952 *American Psychologist.*)

The document, now an official document of the Association, is a Declaration of Independence for psychology. It is also a statement of basic principles psychologists believe must guide the development of psychology as a profession and must characterize our relations with other professions.

Among the principles adopted by the Association are the following:

5.1. The professional services rendered by psychologists vary greatly in their distinctiveness. Some are rarely carried out by nonpsychologists; others are shared with several other professional groups. Public welfare is advanced by the competent performance of socially useful services by

a number of professions. Psychology believes it undesirable to attempt to control the practice of all psychological functions by restricting them to members of any single profession *except in so far as it can be clearly demonstrated that such restriction is necessary for the protection of the public.* Psychology, therefore, does not favor narrowly restrictive legislation, which provides that only psychologists (or teachers, or physicians, etc.) may engage in certain applications of psychological knowledge and techniques.

5.2. In performing its applied functions, either alone or in association with other professions, psychology accepts the responsibility for adopting every feasible means to protect the public from the incompetent or unwise application of psychological knowledge and techniques.

5.21. Psychology accepts the responsibility for (*a*) establishing meaningful standards of professional competence, (*b*) designating to the public those members of the profession who have met these standards, and (*c*) effectively informing the public concerning the meaning of the established standards of competence.

5.24. In the interests of both the public and the client and in accordance with the requirements of good professional practice, the profession of psychology is obligated to seek legal recognition of the privileged nature of confidential communications with clients.

5.4. Since our society endorses independent private practice of the professions, the profession of psychology regards it as appropriate for its members to choose this mode of practice, providing that they are properly qualified.

5.41. Recognizing that independent private practice, whether in clinical, counseling, or industrial psychology, involves the assumption of grave professional responsibilities [2] requiring both high technical competence and mature judgment, the profession of psychology will support a member's decision to elect this mode of practice only if, in the judgment of his peers, he is qualified by training, experience, maturity and attitudes to hold himself forth to the public as a qualified psychologist.[3]

5.42. Since the practice of psychology in institutional settings or under qualified supervision or in team or group practice (whether supported by a community or by private fees) encourages collaborative decisions and provides for certain social controls, such practice may be appropriately engaged in by psychologists who do not yet meet the high qualifications expected of persons for independent practice.

5.43. Individuals electing to function independently, not as psychologists but in more limited roles where they do not assume the responsibilities for professional decisions, may also appropriately do so with lesser qualifications than are expected of those who hold themselves forth as qualified psychologists. Examples of such persons are those trained as teachers of remedial reading, speech correctionists, or specialists in a particular testing technique. Such individuals should confine their professional services to those functions for which they are well qualified by training and experience and refrain from holding themselves forth as psychologists.

5.44. The profession approves the practice of psychotherapy by psychologists only if it meets conditions of genuine collaboration with physicians most qualified to deal with the borderline problems which occur (e.g., differential diagnosis, intercurrent organic disease, psychosomatic problems). Such collaboration is not necessarily indicated in remedial teaching or in vocational and educational counseling.[4]

6. As an autonomous profession, psychology cannot accept limitations upon the freedom of thought and action of its members other than limitations imposed by its social responsibility and by considerations of public welfare. The profession must resist moves from any source to establish nonfunctional restraints on the behavior of psychologists whether in the role of teacher, researcher, administrator, or practitioner.

6.1. The profession of psychology will lend every feasible assistance to any responsible member subjected to undue limitations upon his opportunity to function as a responsible teacher, scientific investigator, administrator, or practitioner.

These are principles psychologists are now willing to affirm. We tell ourselves and the world at large where we stand on issues affecting our opportunity and our ability to make our contribution to society. Psychology, as an independent profession, has called upon its own best conscience and its own best insights to arrive at a public statement of its beliefs and aspirations. We state what responsibilities we humbly accept, what rights we will insist upon. We

[2] Such as the responsibility for (*a*) deciding what kinds of problems and which clients he will accept or reject; (*b*) deciding on the amount and the nature of his collaboration with other psychologists and other professional persons; and (*c*) evaluating the quality of his own professional activities.

[3] The most tangible evidence of such endorsement by peers is possession of a Diploma issued by the American Board of Examiners in Professional Psychology, a diploma issued only after an intensive evaluation of a psychologist's training, experience, reputation and professional attitudes in addition to written and oral examinations. Other current symbols of achievement or status (e.g., the possession of an MA or PhD degree, membership in the APA or its divisions, previous experience in private practice, and certificate or license of a state) do not guarantee the degree of professional competence deemed necessary for fully independent practice. Some psychologists not holding an ABEPP diploma may admittedly be fully competent to assume the responsibilities of independent practice. However, psychologists electing to enter independent private practice without a certifying diploma must do so without the assumption that their colleagues or their professional associations will agree with the propriety of their decision.

[4] The substance of this principle was originally adopted by the APA Council of Representatives on September 8, 1949. It is, however, believed desirable that it be included here in the present context. The principle is also included in *Ethical Standards of Psychologists* (Principle 2.51–4, pp. 79–80).

do it after full discussion among our members. We do it without the conviction that our present principles are final principles or that any one principle is absolute and exceptionless. But we nonetheless do it with conviction.

The full document containing these principles and others will be published and distributed to all members of the Association.

Directory of Psychological Service Centers

For several years the Association has considered the desirability of establishing a procedure for telling the layman, in the soundest and the most meaningful way, where he can secure good professional help in confronting personal and emotional problems. Action has been slow. Perhaps we have been inhibited by the obvious magnitude of the task and the disinclination to make judgments which, at their very best, might be fallible. But in the past two years, action has occurred.

Last year, Council established the *Ad Hoc* Committee on a Directory of Psychological Service Centers (John G. Darley, chairman). During the year the committee, on the basis of research and cogitation, formulated definite recommendations and concrete plans for implementing them. In September, the Council voted to follow the committee recommendations to appoint a new committee to proceed with the well-formulated plans to establish a separately incorporated board, somewhat after the model of ABEPP, which will, with the assistance of state psychological associations, get about the job of certifying to the public which agencies, in the eyes of psychologists, are adequately equipped to render assistance with personal emotional problems.

Technical Recommendations for Psychological Tests and Diagnostic Techniques

Because psychological tests are so widely used in making decisions influencing the welfare of persons tested, both individual psychologists and the APA have had a continuing concern that high standards of technical and professional judgment characterize the production, selection, and interpretation of tests. (The first APA committee concerned explicitly with psychological tests was appointed in 1906.)

In 1950, the APA set up a Committee on Test Standards (Lee J. Cronbach, chairman) and assigned to it the difficult task of preparing a statement to guide test producers and consumers in preparing and in using information about tests. This committee, after three years of assiduous work at its task, presented at the September meetings a final draft of its technical recommendations concerning the possible types of information that test producers might make available and procedures that might be followed in test preparation and publication.

Again the Association accepts a responsibility. And it will be noted that it handles this responsibility not by setting down rigid and potentially stultifying rules but by the articulation of "technical recommendations," subject to continual revision.

The Council voted that the statement of the committee should be made an official document of APA, that it should be published and distributed to all APA members. (It will probably be published in some form of collaboration with the American Educational Research Association and the National Council for Measurements Used in Education. Committees on test standards of these two organizations have worked with the APA committee in preparing the statement.)

American Board of Examiners in Professional Psychology

The Board of Directors met for more than an hour with the members of ABEPP for the purpose of examining ABEPP's financial problems. On the basis of information gathered at this meeting the Board recommended to Council that the APA reaffirm its intention of supporting ABEPP and that the APA underwrite the ABEPP budget for the next few years. The Council passed a resolution recognizing ABEPP's service to psychology in its efforts "to protect the public from unqualified practitioners . . . and . . . to maintain psychology's reputation of integrity, competence, and concern for human welfare." The Council voted to underwrite the ABEPP budget for a period of five years, beginning in 1954, by giving ABEPP not more than $5,000 in any year to cover its annual deficit.

Legislation

The Council expressed its thanks to the Advisory Committee on Legislative Matters (Stanley G. Estes, chairman) for preparing a "symposium" on legislation for the October 1953 *American Psychologist*. Then, upon the Board's recommendation, the

Council voted to reconstitute the committee as the Advisory Committee on State Legislation (with Nicholas Hobb, chairman and with E. Lowell Kelly and the Chairman of the Conference of State Psychological Associations, now Charles N. Cofer, as members). The new committee was requested to work with the CSPA committee on legislation, and with correspondents in the various states, to establish a functioning exchange of legislative information and to proceed toward the issuance of a statement containing widely shared agreements among psychologists concerning the desirability of legislation and the nature of legislation if it is sought in any state.

The Association thus continues to recognize its responsibility for legislative matters and moves to meet that responsibility. (Of course, there are quiet but nonetheless firm statements concerning legislation in the now official principles concerning our relations with other professions.)

Relations with Psychiatry

The Board and Council spent relatively little time in explicit discussion of our relations with psychiatry. The Council, with an expression of gratitude for past services, accepted the resignation of William A. Hunt as Chairman of the Committee on Relations with Psychiatry. The President reported that he and the Executive Secretary had spent a friendly and constructive day in conference with the President and Treasurer of the American Psychiatric Association. At the Cleveland meeting, however, the Association was more concerned with psychology's relations with professions in general than with psychology's relation with any one professional group. Our relations with psychiatry will of course be affected by the principles, set down above, concerning our relations with other professions.

The Board informally requested the *Ad Hoc* Committee on Relations with Other Professions to get ahead with its original plan to draw up a principle and policy statement concerning our relations with psychiatry. The Board also announced that it would appoint members of the Committee on Relations with Psychiatry when it became clearer what might be the task of this committee during the coming year. (Later, after correspondence and by mail voting, the Board reconstituted the committee. John G. Darley will be the new chairman.)

Relations with Social Work

The Committee on Relations with Social Work (Howard Mitchell, chairman) reported a year of progress toward increased understanding between psychologists and social workers and increased possibility of collaboration in advancing shared goals.

Relations with Education

Recognizing the importance of maintaining good relations between psychology and the profession of education, the Council, acting upon a recommendation from Division 15, voted to empower the Board of Directors to appoint a Committee on the Relations between Psychology and Education. This committee will be asked to act, in coordination with the Education and Training Board and with interested divisions, in formulating problems of mutual concern to education and various kinds of psychologists and in suggesting proper ways in which APA might attack such problems.

Professional Liability Insurance

The Council voted to accept with thanks the report of the Committee on Professional Liability Insurance and to order published in the *American Psychologist* (*a*) the report of the committee's insurance consultant, and (*b*) a specimen insurance policy. These materials appear in this issue.

Relations with Other Organizations

The Board and Council received and studied reports from most of APA's representatives to some eleven other organizations. Discussion centered mainly around our relations with the American Association for the Advancement of Science and the National Research Council and our proper relations with various organizations whose primary concern is with mental health.

The report of our representatives to AAAS (Rensis Likert and Clifford T. Morgan) is printed in this issue. The Board and Council expressed strong approval of AAAS's stated intent to emphasize its science-wide responsibilities and activities and proferred APA support for moves in this direction.

There was serious discussion of psychology's role in NRC and serious seeking for ways in which our participation in NRC could be made more valuable both to NRC and to psychology. The Division of Experimental Psychology was asked to conduct a

study of ways in which our activities in NRC might be made more meaningful and effective.

The report of the representative to the World Federation of Mental Health (Marie Jahoda) sets off a discussion of psychology's proper relation with the various organizations having a concern for the mental health movement. There appears to be evidence that psychologists feel some reluctance to participate in organizations which take a social or "promotional" rather than a research approach to mental health. And there appears to be evidence that many organizations are unaware of psychology's potential contribution to mental health and have hence been unenthusiastic about inviting psychologists to participate. There appears to be good reason for believing that psychologists' more active participation would be beneficial to all concerned. Upon the recommendation of the Board, the Council voted to create a Committee on Mental Health Programs and elected Frederick Wyatt as chairman. The committee was invited to make recommendations concerning the nature and extent of psychologists' participation in mental health organizations.

Representatives to the Social Science Research Council (Robert R. Sears, Douglas McGregor, and Ernest R. Hilgard) reported on the continued active participation of psychologists in SSRC projects and on psychology's benefits from both the grants-in-aid program and the research planning activities of SSRC. The Council of Representatives passed a motion that the APA should express to SSRC, the Markle Foundation, and the Ford Foundation its judgment concerning the great value of the SSRC series of interdisciplinary summer seminars.

Representatives to the Inter-Society Color Council (Robert Burnham, chairman of delegation) and to the American Standards Association Committee Z58 (William Berry and Leo Hurvich) reported on continued and useful participation by psychologists. So did the representative (Salvatore DiMichael) to the National Society for Crippled Children and Adults. Our representative to the War Claims Commission (John W. Stafford) reported the completion of a "second year of total inactivity." Our representation is of a stand-by nature. Our representative has stood by.

Representatives to the Scientific Manpower Commission (Leonard Carmichael and Dael Wolfle) reported the Commission's progress toward its goal of serving as a clearinghouse and information center on all matters relevant to scientific manpower and helping to ensure an adequate supply of specialists to meet the nation's needs.

PUBLIC INFORMATION

Slowly and carefully, we have been moving toward a more active program of public information. More and more psychologists are willing to accept as a responsibility the attempt to inform society concerning the nature of psychology and the behavior of psychologists. And more and more psychologists believe it a necessity that we inform the public about ourselves if the public is to continue its support of psychology and psychological research. The Council accepted with commendation the report of the Committee on Public Relations and ordered it published in this issue of the *American Psychologist*. The Council also voted a $10,000 budget to cover public information activities during the coming year. (The report of the committee will give a good idea about what we will get for this money.)

The meetings at Cleveland were characterized by very active and cordial relations between psychologists and newsmen. The APA furnished prepared releases on many newsworthy papers and assisted in numerous ways to establish sensible contact between psychologists and journalists. During the week of the meetings not only were there a large number of local and nationwide stories in newspapers but psychologists also appeared on eight radio and five television programs.

The following editorial from the Cleveland *Press* of September 7, 1953, will serve as an illustration of the results—and perhaps of the goal—of our active public information program.

The People Profit Quickly from Advances in Psychology

The study of psychology has bounded forward so rapidly in recent years that it's not surprising the convention of the American Psychological Association is in session here for six full days.

The purpose, of course, is to trade ideas and information, and there's a mountain of fresh material to work through.

Most of the specific topics they'll examine are far over the heads of untrained laymen. Some of their subjects—like "Somatic, Psychological, and Androgenic Determinants"—are even difficult for most folks to pronounce.

But the big and important problem they're trying to solve—how to help ordinary people live happy and well-adjusted lives—is well understood by everyone.

The public knows, too, how much they've done to speed the adjustment of school children, how they've developed tests that help people choose the careers for which they're

best suited, how they've helped folks overcome tough mental and physical handicaps.

EDUCATION AND TRAINING

Since the Education and Training Board (E. Lowell Kelly, chairman) reported to the Board of Directors at its spring meeting, the September meeting saw relatively little E & T action. The E & T Board and its committees did, however, submit evidence of a continuing active pursuit of appointed tasks. The program of advice to and evaluation of training programs in clinical psychology and in counseling psychology was carried on, with what is now a taken-for-granted skill and effectiveness, by the Committee on Doctoral Education (Delos D. Wickens, chairman) with the able assistance of Bruce V. Moore, executive officer of the E & T Board. The Committees on Subdoctoral Education (Ralph F. Berdie, chairman), on Practicum Training (Roy Brener, chairman), Psychology in Other Professional Schools (Donald B. Lindsley, chairman), and on Undergraduate Education (Wilbert J. McKeachie, chairman) each reported activity which will, directly or indirectly, affect general thinking and action on the intricate training problems psychology faces.

For the coming year the E & T Board will continue what it and the Board of Directors regard as desirable cooperation with the National Commission on Accrediting and with regional accrediting associations. And during the coming year, the actual work of visiting, advising, and approving training programs in counseling and in clinical psychology will be carried on by a newly constituted Committee on Evaluation (Edward S. Bordin, chairman) while a Committee on Doctoral Education (Theodore M. Newcomb, chairman) will concern itself with less immediate problems of policy and principles.

Also, for the coming year, the E & T Board will assume the responsibility of planning and guiding a conference on the training and functions of school psychologists. This conference was proposed by the Division of School Psychologists and is financially backed by a grant from the USPHS. Bruce V. Moore is chairman of the committee to plan and organize the conference.

ELECTIONS

As announced in the August *American Psychologist*, the membership chose E. Lowell Kelly as the new President-elect of the Association.

From a slate of nominees submitted by APA members, the Council of Representatives elected Edward C. Tolman as Co-President of the Fourteenth International Congress of Psychology. The Congress, sponsored jointly by the Canadian Psychological Association and the APA, will be held in Montreal, June 7–12, 1954.

The Council also elected Stuart W. Cook and Wayne Dennis to the Board of Directors to replace Rensis Likert and Jean W. Macfarlane, whose terms have expired. John G. Darley was elected editor of the *Journal of Applied Psychology* for a six-year term beginning in 1955.

OTHER REPORTS AND ACTIONS

There are several dozen actions of the Council and of the Board not described in the foregoing paragraphs. The attempt in the present report is to put high-spot events into some sort of context and in some sort of continuity. The member who wants details, let him be reminded again, should turn to the reports of the Recording Secretary and Treasurer and to the reports published in this issue, or should request from the Central Office such reports of boards and committees as he wishes to study in earnest.

Before the present summary is hustled off to the printer, however, it should mention at least briefly the work of several other committees.

The Membership Committee (John W. Macmillan, chairman) reported it had not only processed 1,352 applications for Associate membership (of which 1,204 were elected in 1953) but had prepared a new application blank for Associates and a new uniform application blank for Fellows. Both the new blanks are now in use and appear to work satisfactorily. The committee met for two days during the Cleveland convention to process 129 applicants for Fellowship. The list of applicants was submitted by mail, after the September meetings, for Council voting. The list of those elected is presented on page 653 of this issue.

The Committee on Ethical Standards (Robert R. Sears, chairman) reported that it has done what it was instructed to do—collect comments and problems growing out of the use of the *Ethical Standards of Psychologists* with an eye to the eventual revision of the ethics code. The Committee on International Relations (Herbert S. Langfeld, chairman), since it was sufficiently forehanded to report to the Board in the spring, came in for relatively

little attention at Cleveland. The actions of Board and Council, however, show that the Committee has helped implement psychology's concern for good international communication.

The Committee on Academic Freedom and Conditions of Employment (Ernest R. Hilgard, chairman) reported its continual attention to its business but it took no large action during the year and submitted no recommendations to the Council. The Committee on Fund Raising for the APA Building (George K. Bennett, chairman) reported that by the tenth of August 1953, 1,031 individuals and 27 organizations had contributed or pledged a total of $17,135 to the Building Fund. The Committee met in Cleveland to consider ways of soliciting needed contributions from the large number of members who have not yet participated in the fund-raising campaign.

The Committee on the American Psychological Foundation (J. McV. Hunt, chairman) reported that the Foundation has been duly incorporated and would soon be ready, able, and very willing to receive contributions from psychologists and others.

The Committee on Health and Accident Insurance (Franklin V. Taylor, chairman), appointed during the summer, reported upon its initial study of the desirability of having APA secure on a group basis, health and accident insurance for any member desiring it. The Committee was thanked for its work and asked to secure additional information concerning the extent of interest in such a plan.

The Committee on the Bingham Lectureship (Robert M. Yerkes, chairman) reported it had accomplished its appointed task. In accordance with a memorandum left by the late Walter V. Bingham, Mrs. Millicent Todd Bingham provided funds to sponsor a lecture to be delivered by an individual who had made a signal contribution to the discovery of young scientific talent, with the lecture to be given at an institution having also made a contribution in this field. The committee announced that the lecture would be given during 1954 at the University of California at Berkeley and would be delivered by Lewis M. Terman.

The President announced that the Board of Directors had accepted with pleasure a gift of $1,000 from the J. McKeen Cattell Fund to be used to beautify and furnish the garden at the national headquarters building. The garden is to be known as the Cattell Garden and will contain a simple plaque memorializing Professor Cattell.

The Conference of State Psychological Associations, reporting after its annual meeting at Cleveland, recommended (*a*) that the State Psychological Associations of Nebraska and New Hampshire be officially affiliated with the APA and be accepted as members of the Conference and (*b*) continuation of the practice of having a half-time CSPA technical aide in the APA Central Office, with APA and CSPA sharing the expense. Council approved both recommendations. The CSPA also reported its aspirations for the proposed Policy and Planning Board study of state associations and gave assurance of its cooperation in the study. The Conference transmitted to Council a resolution calling for positive and appropriate attempts to secure legislation for psychologists when in the public interest, and reported a motion approving the Council's action in appointing a new Advisory Committee on State Legislation with the Chairman of the Conference a member.

The Council concluded its annual business meeting with a sincere expression of appreciation to Cleveland, to the four hotels whose hospitality we enjoyed, and especially to Erwin K. Taylor, who with the good and willing assistance of many Cleveland colleagues—principally from the staff of Western Reserve University—did such a remarkably smooth and effective job of managing the convention.

PROCEEDINGS OF THE SIXTY-FIRST ANNUAL BUSINESS MEETING OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION, INC., CLEVELAND, OHIO

SEPTEMBER 5 AND 8, 1953

REPORT OF THE RECORDING SECRETARY

ANNE ANASTASI

Fordham University

THE annual meeting of the Council of Representatives of the American Psychological Association was called to order at 9:10 A.M., September 5, 1953, by President Laurance F. Shaffer in the Cleveland Hotel, Cleveland, Ohio. The first session of the meeting was recessed for lunch from 12:00 to 1:30 P.M., and adjourned at 3:00 P.M. The second session convened at 9:20 A.M. on September 8, 1953 and adjourned at 12:25 P.M. Prior to the Council meetings, the Board of Directors met on September 1, 2, and 3 from 9 A.M. to 5 P.M. and from 7:30 P.M. to 11 P.M., and on September 6 from 8 P.M. to 2:30 A.M. for discussion of recommendations and preparation of the agenda.

A. REPORTS OF APA OFFICERS, BOARD OF DIRECTORS, AND COUNCIL OF REPRESENTATIVES

1. It was voted to approve the minutes of the Council meetings of September 2 and 4, 1952, as printed in the *American Psychologist*, 1952, 7, 645–670.

2. It was voted to approve and order printed in the proceedings the report of the Recording Secretary on the meetings of the Board of Directors, April 9–12, and preceding interim actions.

3. The Board of Directors reported the following additional interim actions:

a. Interim actions of the Board of Directors following the April meeting:

(1) Approval of APA sponsorship, jointly with the Society for the Study of Evolution, of a conference on the Evolution of Behavior. Approval of Frank A. Beach, Harry F. Harlow, Henry W. Nissen, and Anne Roe (chairman) as the APA committee to cooperate with SSE committee to plan and conduct conference.

(2) Approval of up to $500 1953 expense budget for the incoming Editor of the *Psychological Review.*

(3) Approval of up to $600 1953 expense budget for the Editor of the *Journal of Experimental Psychology.*

(4) Upon recommendation of the Committee on Scientific and Professional Ethics and Conduct, acceptance of the resignation of three members of the APA.

(5) Approval of a request for $45,000 additional funds from the National Science Foundation to support for 1953–54 the P & P Board studies of psychology as a science and as a profession.

(6) Approval of a slate of three names recommended by the Publications Board for the Editorship of the *Journal of Applied Psychology,* to be submitted to a vote of the Council of Representatives.

(7) Approval of the construction of additional office space in the coach house to the rear of the national headquarters building.

b. Interim actions of the President:

(1) Appointment, under instruction of the Board of Directors, of Joan H. Criswell, Benjamin Shimberg, and Franklin V. Taylor (chairman) to serve as the Committee on Group Health and Accident Insurance for APA members.

(2) Appointment, under instruction of the Board of Directors, of Robert M. Yerkes (chairman), J. P. Guilford, Lee J. Cronbach, Henry Chauncey, and Bruce V. Moore as members of the Committee on the Walter V. Bingham Lecture.

c. Interim action of the Council of Representatives:

(1) Approval of the splitting of E & T Committee on Doctoral Education into: (*a*) Committee on Doctoral Education and (*b*) Committee on Evaluation.

B. REPORTS OF COMMITTEES, SPECIAL BOARDS, AND REPRESENTATIVES TO OTHER ASSOCIATIONS, AND RELATED ACTIONS BY COUNCIL AND BOARD OF DIRECTORS

1. It was voted to receive the minutes of the June meeting of the Policy and Planning Board with thanks.

2. It was reported that the Board of Directors had received with thanks a draft, prepared by the chairman of the Policy and Planning Board, of a report on current Division Bylaws.

3. The Council received with thanks the report of the Advisory Committee on Development and Status of Research and Education in Psychology.

4. It was voted that Council receive with thanks the report of the American Board of Examiners in Professional Psychology.

5. The Council voted to accept the following statement and resolution submitted by the Board of Directors:

In 1942, on the recommendation of the Policy and Planning Board, APA voted to establish an agency to certify psychologists in the applied fields. Through such a move the Association hoped not only to protect the public from unqualified practitioners but also to maintain psychology's reputation of integrity, competence, and concern for human welfare. Accordingly, the American Board of Examiners in Professional Psychology was established. Through the past few years a number of devoted members of the profession have labored, assiduously, wisely, and often at great personal sacrifice, in order that ABEPP could serve its high purpose. ABEPP is now encountering financial difficulties. These difficulties, the Board of Directors feel, must be of concern to all psychology.

In the period of "grandfather" certification, ABEPP's income more than covered its expenses, making it financially independent, for some years, of the body that established it and initially underwrote it. Now, with a decline in the number of applicants and with the necessity to conduct extensive examination of each applicant, income does not, in spite of ABEPP's careful financial management and diligent efforts to meet its financial problems, cover expenses. Because of the necessary paucity and variability of ABEPP's income during the next few years, the Board of Directors recommends the following resolution:

Be it resolved that APA reaffirms its earlier promise to support ABEPP and that APA now underwrite the ABEPP budget for a period of five years, beginning in 1954, by giving ABEPP not more than $5,000 in any year to cover its annual deficit.

6. It was voted that the report of the Convention Program Committee be received with thanks.

7. It was voted that the report of the Committee on Scientific and Professional Ethics and Conduct be received with thanks.

8. The report of the Committee on Student Activities was received with thanks.

9. The Board reported its intention to ask the Committee on Student Activities to consider the functions and future plans of this committee and examine the advisability of reinstating the Student Affiliate class of membership, and to report to the Board of Directors and the Policy and Planning Board. The Board also will request the new committee to investigate ways of increasing membership in the Student Journal Group.

10. It was voted that the report of the Public Relations Committee be received with thanks and commendation and that it be published in the *American Psychologist*.

11. The Board reported that it had recommended to the P & P Board that the name of the standing Committee on Public Relations be changed to the Committee on Public Information.

12. It was reported that it was the sense of the Board that the Committee on Public Relations be encouraged to establish on a small scale observer panels whose sole function will be to collect information about the presentation of psychology in mass media.

13. The report of the Membership Committee was received with thanks.

14. The report of the Committee on Precautions in Animal Experimentation was received with thanks.

15. The report of the Committee on International Relations in Psychology was received with thanks.

16. The report of the Committee on Ethical Standards of Psychologists was received with thanks.

17. The report of the Committee on Relations with the Social Work Profession was received with thanks.

18. The report of the Committee on Academic Freedom and Conditions of Employment was received with thanks.

19. The report of the Committee on Test Standards was received with thanks and commendation.

20. It was voted that the Technical Recommendations for Psychological Tests and Diagnostic

Techniques, formulated by the Committee on Test Standards, be officially adopted as those of the APA and published.

21. The Council voted that, if the American Educational Research Association and the National Council on Measurements Used in Education both adopt the "Technical Recommendations," the APA publish the recommendations as a joint statement of the three associations, bear the initial cost of publication, and sell copies at an appropriate rate to the other associations; that the Committee on Test Standards be continued, with a reduced size and no immediate budget; that the continuing committee be instructed to collaborate with the continuing committee of AERA and NCMUE in the development of recommendations for achievement tests; and that the continuing committee be requested to establish a mechanism for revising in any desirable ways the present recommendations.

22. It was voted that the report of the Education and Training Board be received with thanks.

23. It was voted to change the name of the *Ad Hoc* Committee on Relations between Psychology and the Medical Profession to *Ad Hoc* Committee on Relations between Psychology and Other Professions.

24. The Council voted to adopt as APA policy the principles formulated by the *Ad Hoc* Committee on Relations between Psychology and Other Professions, as revised and edited by the Board following suggestions received from the membership, with the addition of an appropriate reference to Principle 2.51–4 of *Ethical Standards of Psychologists,* to be inserted in footnote 5, p. 18 of the report.

25. It was voted that the Advisory Committee on Legislative Matters be thanked for its services in the preparation of the symposium on legislation for psychology for the October *American Psychologist.*

26. The Council voted that the Advisory Committee on Legislative Matters be reconstituted for one year as the Advisory Committee of State Legislation; that the committee consist of Nicholas Hobbs (chairman), E. Lowell Kelly, and the Chairman of the Conference of State Psychological Associations; that it work in coordination with the Committee on Legislation of the Conference of State Psychological Associations in drawing together statements of APA policy on legislative matters based upon points of Association agreement; that wide and prompt circulation be given such statements among all APA groups concerned with legislation, and that they then be submitted to the Board of Directors; and that this committee serve as an advisory group to the Central Office during the year.

27. It was further voted that a correspondent be selected in each state whose function will be to furnish legislative information promptly to the Central Office, which will in turn feed such information back to the appropriate committees; and that these correspondents be selected by the Advisory Committee on State Legislation, in cooperation with the appropriate state associations.

28. It was voted that the report of the Committee on a Directory of Psychological Service Centers be received with thanks and commendation and ordered published in the *American Psychologist.*

29. It was voted that a separately incorporated Board be established to carry out the preparation of a Directory of Psychological Service Centers and to determine what agencies qualify for inclusion.

30. In accordance with the recommendation of the present Committee on a Directory of Psychological Service Centers that this committee be reconstituted, the Council voted that the following be named as members of the reconstituted committee: Nathan Kohn, Jr. (chairman), Roy Brener, Karl F. Heiser, Wendell S. Dysinger, and Arthur L. Irion.

31. The Council voted to empower the Board of Directors to take whatever interim steps are necessary to implement the establishment of the Board on Directory of Psychological Service Centers.

32. It was voted that the report of the Committee on the Building Fund be received with thanks.

33. It was voted that the report of the Committee on the American Psychological Foundation be received with thanks and that the committee be discharged according to its own request.

34. It was voted that the report of the Committee on Health and Accident Insurance be received with thanks.

35. The Board reported that it had asked the Committee on Health and Accident Insurance, with the help of the Central Office, to secure further information and to gather data on the extent of interest in such insurance through a poll of a sample of the membership.

36. The report of the Conference of State Psychological Associations was received with thanks.

37. The attention of the Council was called to a

communication received from the Conference of State Psychological Associations, which states that the Conference goes on record "as favoring the passage of legislation by the States to accredit psychologists whenever necessary to protect the public interest, and as urging that the appropriate APA and CSPA committees and representatives extend all possible aid to State Associations seeking to obtain such legislation."

38. It was voted that the report of the Committee on Professional Liability Insurance be received with thanks.

39. The Council voted (*a*) that the report of the insurance consultant to the Committee on Professional Liability Insurance, together with a specimen insurance policy, be published in an early issue of the *American Psychologist;* and (*b*) that this committee be continued with J. McV. Hunt replacing O. Hobart Mowrer as chairman and the other present members remaining, and that the committee further advise the Board and the Council concerning appropriate means for putting into effect professional liability insurance, provided that there is sufficient interest to warrant it.

40. The report of the APA representatives to AAAS was received with thanks.

41. It was voted that Council endorse the Arden House statement and the recommendations included in the report of the APA representatives to AAAS.

42. It was voted that Division 3, in cooperation with the APA representatives to the National Research Council, undertake a study of the role of psychology in the NRC, and make recommendations to the Board regarding actions that might be taken to increase the contributions of psychology to the activities and objects of the NRC.

43. It was voted that the report of the APA representatives to the Social Science Research Council be received with thanks and that the following item which is of interest to psychologists be added to the report: The Labor Market Research Committee, SSRC, sponsored a conference on theory and design in labor mobility research. Psychologists who participated in this conference included John G. Darley, Rensis Likert, Douglas McGregor, O. Hobart Mowrer, Fillmore H. Sanford, and Carroll L. Shartle.

44. It was voted that the APA express to the SSRC, to the Markle Foundation, and to the Ford Foundation its appreciation of the value of the programs of interdisciplinary Summer Seminars supported by these foundations and express its hope that support can be found for future activities of this character.

45. It was voted that the report of the APA representatives to the Inter-Society Color Council be received with thanks.

46. It was voted that the report of the APA representatives to the American Standards Association Committee Z58 on Standardization of Optics be received with thanks.

47. The Board reported that it will ask the APA representatives to the American Standards Association Committee Z58 on Standardization of Optics to prepare a brief article, summarizing the standardization developments described in their report, for publication in the *American Psychologist.*

48. It was voted that the report of the APA representative to the World Federation for Mental Health be received with thanks.

49. The Council voted that a Committee on Mental Health Programs be appointed to investigate ways in which psychologists can participate more effectively in mental health programs and to report to the Board.

50. It was voted that the report of the APA representative to the War Claims Commission be received with thanks.

51. It was voted that the report of the APA representative to the National Society for Crippled Children and Adults be received with thanks.

52. It was voted that the report of the APA representative to the International Union of Scientific Psychology be received with thanks.

53. It was voted that the report of the APA representatives to the Scientific Manpower Commission be received with thanks.

54. The report of the Executive Secretary on the Central Office was received with thanks.

55. The Council again voted to instruct the Executive Secretary to prepare for publication an over-all summary article on the business of this annual meeting as an alternative to publication of all board and committee reports. Publication of certain reports has been recommended specifically in preceding items. As heretofore, copies of reports will be available in the Central Office on request, and bound sets will be permanently filed.

C. ELECTIONS

1. The Board announced the election of APA officers for 1953 as follows: President-elect, E.

Lowell Kelly; members of the Board of Directors, for the period of 1953–56, Stuart W. Cook and Wayne Dennis.

2. Upon receipt of nominations by the membership, the Council elected Edward C. Tolman as co-president of the Fourteenth International Congress of Psychology.

3. It was reported that Council had elected by mail ballot John G. Darley as editor of the *Journal of Applied Psychology* for 1955–61.

4. The Council approved the Board recommendation that Stuart W. Cook and Lee J. Cronbach be appointed as advisory editors of the *American Psychologist*.

5. The Council approved the Board recommendation that the following persons be nominated for membership on the American Board of Examiners in Professional Psychology:

Clinical: Katherine Bradway, Albert J. Harris, Noble H. Kelley, Boyd McCandless, Mortimer Meyer, Anne Roe, Carl R. Rogers.

Industrial: Bernard J. Covner, Orlo L. Crissey, Stephen Habbe, Clifford E. Jurgensen, William McGehee, Jay L. Otis, Edward A. Rundquist.

Counseling and guidance: Edward S. Bordin, Mitchell Dreese, Daniel D. Feder, Frank M. Fletcher, Donald E. Super, Austin B. Wood.

Nonprofessional: Ernest R. Hilgard, Francis W. Irwin, Theodore M. Newcomb, Carlton F. Scofield.

6. It was reported that the Council had elected by mail ballot the following persons as new members of APA Boards and Committees:

Policy and Planning Board	Nicholas Hobbs (1953–56)
	Ann Magaret Garner (1953–56)
	Douglas McGregor (1953–56)
Publications Board	
Editor of APA journal:	Wayne Dennis (1953–56)
Noneditors:	I. E. Farber (1953–55)
	Harold Seashore (1953–56)
	Robert L. Thorndike (1953–56)
Finance Committee	Leonard W. Ferguson (1953–56)
Convention Program Committee	Richard P. Youtz (1953–56)
Committee on Scientific and Professional Ethics and Conduct	John F. Dashiell (1953–58)
Committee on Student Activities	Hugh M. Bell (1953–56)
	Alex C. Sherriffs (1953–56)
Committee on Public Relations	Rensis Likert (1953–56)
Membership Committee	Meredith P. Crawford (1953–56)
Committee on Precautions in Animal Experimentation	Arthur J. Riopelle
Committee on International Relations in Psychology	Leonard Carmichael (1953–56)
	John W. Gardner (1953–56)
Education and Training Board:	
Members at Large	Marion E. Bunch (1953–56)
	Stuart W. Cook (1953–56)
	Dael Wolfle (1953–56)
Committee on Undergraduate Education	Dwight W. Chapman, Jr. (1953–56)
	Frank W. Finger (1953–56)
Committee on Subdoctoral Education	William A. McClelland (1953–56)
	Albert S. Thompson (1953–56)
Committee on Doctoral Education	Roger G. Barker (1953–56)
	Theodore M. Newcomb (1953–56)
Committee on Evaluation	William U. Snyder (1953–56)
	Charles R. Strother (1953–56)

It was reported that the following persons, recommended by the Board of Directors, had been approved by the Council on mail ballot as members of APA Boards and Committees:

Membership Committee	Paul R. Farnsworth (1953–55)
Committee on Ethical Standards of Psychologists	Arthur L. Irion (1953–55)
	Rheem F. Jarrett (1953–55)
Committee on Relations with the Social Work Profession	Leonard S. Kogan
	Ronald Lippitt
	Paul W. Penningroth
Committee on Test Standards	Edward S. Bordin (1950–54)
	Paul E. Meehl (1950–55)
	David V. Tiedeman (1953–56)
	Jacob S. Orleans, *ex officio*
	Robert L. Ebel, *ex officio*
Education and Training Board	Bruce V. Moore, Executive Officer, *ex officio*
Committee on Psychology in Other Professional Schools	B. von Haller Gilmer
	Ivan Norman Mensh
	M. A. Wenger
Committee on Questionnaires	Howard F. Uphoff
Committee on the Utilization of Manpower	David R. Krathwohl
Committee on Professional Liability Insurance	Robert B. Selover

7. It was reported that the Council approved by mail vote the following persons to serve as chairmen of the committees specified for the year 1953–54:

Publications Board	Paul R. Farnsworth
Finance Committee	Carroll L. Shartle
Convention Program Committee	Charles N. Cofer
Committee on Public Relations	John W. Macmillan
Committee on Precautions in Animal Experimentation	William O. Jenkins
Committee on International Relations in Psychology	Herbert S. Langfeld

Committee on Relations with the Social Work Profession	Howard E. Mitchell
Committee on Academic Freedom and Conditions of Employment	Clarence H. Graham
Committee on Test Standards	Edward S. Bordin
Education and Training Board	George A. Kelly
Committee on Psychology in Other Professional Schools	Ivan Norman Mensh
Committee on Undergraduate Education	Thomas Gordon
Committee on Practicum Training	Clare Wright Thompson
Committee on Evaluation	Edward S. Bordin
Ad Hoc Committee on Convention Program Policy	Launor F. Carter

8. The following persons were elected by the Council as members of APA committees:

E & T Board, Committee on Postdoctoral Education	Donald W. Fiske (1953–56) Robert M. Gagné (1953–55) Anne Roe (1953–55) Edward Joseph Shoben, Jr. (1953–54)
E & T Board, Committee on Evaluation	Donald M. Johnson (1953–56)
Committee on Academic Freedom and Conditions of Employment	Jean W. Macfarlane (1953–58)

9. The Council approved a Board recommendation that the membership of the *Ad Hoc* Committee on Relations between Psychology and Other Professions be continued without change.

10. The Council voted that the following persons be appointed as a Committee on Participation in Association Affairs, to explore ways of broadening the base of participation and of discovering talent which can be put to use by the Association and the profession: M. Curtis Langhorne (chairman), Graham B. Bell, Laurie T. Callicutt, Robert L. Kahn, Robert A. Patton, Earl F. Telschow, and Paul R. Farnsworth, liaison with the Board.

11. The Council approved a Board recommendation that, in the preparation of committee slates, the practice of indicating by an asterisk the names of promising persons not previously active in Association affairs be continued.

12. The Council voted that the following be appointed as a Committee on Mental Health Programs: Frederick Wyatt (chairman), William M. Gilbert, Marie Jahoda, Ija N. Korner, Theodore Landsman, and Loyd Rowland.

13. The Council approved a Board recommendation that no Committee on Audio-Visual Aids be elected for 1953–54.

14. The Board reported that the Board Committee on Problems of Interprofessional Relations had been discharged with thanks in view of the subsequent establishment of other committees charged with similar functions.

15. The Board reported the appointment of the following Board Committee to recommend a plan whereby APA and its members can more effectively be informed about, and take constructive steps regarding, public actions affecting the interests of, and the service rendered by, the science and profession of psychology: Carroll L. Shartle (chairman), Stuart W. Cook, and the APA President and Executive Secretary, *ex officio*.

16. Upon the recommendation of the Board of Directors, the Council approved the following persons to serve as chairmen of the committees specified:

Committee on Student Activities	Calvin S. Hall
Committee on Scientific and Professional Ethics and Conduct	John F. Dashiell
Membership Committee	Charles N. Cofer
E & T Board, Committee on Subdoctoral Education	Louis Long

17. The Council voted that the resignation of William A. Hunt as chairman of the Committee on the Relation of Psychology to Psychiatry be accepted with an expression of appreciation for past services.

18. It was voted that Theodore M. Newcomb be chairman of the E & T Committee on Doctoral Education.

19. It was voted that Julian B. Rotter be named a member for 1953–56 and chairman of the E & T Committee on Postdoctoral Education.

20. The Council elected the following persons to serve as APA representatives to other organizations:

National Research Council	Charles W. Bray (1954–57) J. McV. Hunt (1954–57) William A. Hunt (1954–57)
Social Science Research Council	Carroll L. Shartle (1954–56)

21. Upon the recommendation of the Board of Directors, the Council approved the following persons to serve as APA representatives to other organizations:

American Association for the Advancement of Science	Arthur W. Melton (1953–55)
American Documentation Institute	Herbert S. Conrad

American Standards Association Committee Z58 on Standardization of Optics	Leo M. Hurvich (representative) Henry A. Imus (alternate)
World Federation for Mental Health	Marie Jahoda
Committee on Mathematical Training of Social Scientists	David A. Grant William K. Estes
War Claims Commission's Special Advisory Committee	John W. Stafford
National Society for Crippled Children and Adults	Salvatore G. DiMichael
National Council for Mobilization of Education	Thomas G. Andrews Fillmore H. Sanford
Scientific Manpower Commission	Leonard Carmichael Dael Wolfle

22. The Council voted that, upon the recommendation of the present delegates, Randall M. Hanes be appointed a delegate to the Inter-Society Color Council to replace Neil R. Bartlett, and that Alphonse Chapanis be elected a voting delegate.

23. The Board reported that it had requested the APA delegates to the Inter-Society Color Council to recommend a plan for rotating delegates to this Council.

D. MEMBERSHIP

1. It was announced that the deaths of the following members had been reported since the 1952 meetings:

LIFE MEMBERS

A. A. Cleveland
Martin L. Reymert
Harry M. Johnson

FELLOWS

Harriet Babcock
Mabel R. Fernald
A. R. Gilliland
Minnie L. Steckel
John L. Stenquist

ASSOCIATES

William Berry
Janet M. S. Blakeslee
Kenneth W. Braly
Agnes M. Conklin
Stanley D. Curyea
Kate Franck
Cecily S. Glasgow
J. B. Hughes II
Lehman C. Hutchins
William L. Jenkins
L. William Johnson
Charles D. Keet
Albanus B. Kitzmiller
Richard M. Magoun
Evelyn S. Mason
John L. Meadows
Esther B. Myers
Arline E. B. Nicolson
Frampton B. Price
Arnold W. Shilanse
Sarah S. Spivak
Ernest H. Ward
Eloise S. Young

2. It was announced that the following members had resigned since the 1952 meeting:

FELLOWS

R. F. Becker
Gustav Ichheiser
Gladys G. Ide
Benjamin Kotkov
Gwynne Nettler
H. Sherman Oberly
Millicent Pond
Irene C. Sherman
Ella Woodyard

ASSOCIATES

Louise E. Alteneder
Katherine Foster Barnfield
Harold E. Black
Percy Black
Walter S. Boernstein
Margaret E. Bowman
Moses J. Brines
Mybert E. Broom
Frances C. Brown
Lawrence L. Bryan
Phil W. Buck
Samuel E. Burr, Jr.
Dennis J. Buttimore
Ruth K. Byrns
Caryl C. Carr
Irving T. Chatterton
Phyllis W. Clarke
Desmond L. Cook
Marcel G. Crepeau
Harold S. Danenhower
Tamaara Danish
William N. Davidson
Margaret J. M. Dawson
Alyce R. DeVore
Joseph M. Doblmeier
Dorothy A. Doerr
John M. Dorsey
Irvine M. Dungan
Sister Mary F. Eggleston
Sol R. Eilert
Sister Mary Annette Elliott
Earl F. English
Katherine W. Estes
Jesse E. Farris
John T. Fitzwater
Lloyd Foley
Harold M. Friedman
Elizabeth M. Fuller
William F. Garber
Anita C. Granich
Joseph H. Griffiths
Gwendolyn W. Groves
Nancy H. Haskins
Royal S. Hayward
Paul E. Huston
Esther I. Kahn
Edward C. Keachie
Marquis A. Kirk
Hermana C. Kolkmeijer
Sarah F. Koltun
Robert G. Lanzit
Margaret D. S. Lawrence
Grace A. Lewis
Charles F. Lindsley
James W. Louie
Thomas P. Malone
Eunice Matheson
S. Margaret McAllister
Luberta McCabe
Elizabeth McCarley
Ruth McKinnis
Muriel S. Moglen
Meyer Morson
George V. Moser
Mohamed O. Nagaty
Gerald M. Newton
Gustav S. Nordberg
Jessie M. Ostrander
Margot W. Otter
Lloyd Parker
Elizabeth G. Penn
Gustav E. Peterson
Robert B. Phipps
Ehud Priestley
Johnny D. Quinton
Alene Ralston
Reuben L. Revens
George E. Riedl
Estelle T. Ritchin
David H. Roberts
Mary M. Roos
Hugh V. Ross
Mary S. Samson
Harriet Satz
Herbert W. Saul
Frances W. Savage
Mary Sherman Savitt
Dorothy E. Schoch
Saul Schwarz
Philip F. D. Seitz
L. Harold Sharp
Joseph B. Shay
Charlotte T. Simon
Anna E. Smith
Flora L. Somers
Elizabeth K. Starkweather
Henrietta W. Steinberg
Argyle Stoute
Sue B. Stryker
Edward A. Suchman
Robert E. Swenson
Emmy Sylvester
Frank E. Tomlin
Charles Van Riper

Jean W. Walhay
Charles F. Wallraff
Raoul Weisman
Aaron Weiss
Mary Dorothy Whitaker
Ida E. Whitten
Margaret Ivy Weidemer
Norman Woelfel
Kenneth Scott Wood
Ray G. Wood
H. Wilkes Wright
Louise G. Yum
Margaret M. Zeigler

3. It was announced that the following members had been granted status as Life Members since the 1952 meeting:

Henry F. Adams
H. C. Bingham
Grace E. Bird
David P. Boder
Edwin G. Boring
Warner Brown
B. R. Buckingham
J. E. DeCamp
G. O. Ferguson
Florence L. Goodenough
F. M. Gregg
Edwin R. Guthrie
Augusta Bronner Healy
James H. Huddleson
Laurence S. McLeod
Henry T. Moore
Karl F. Muenzinger
H. B. Reed
Samuel D. Robbins
David C. Rogers
William W. Rogers
Madorah E. Smith
Harry P. Weld
Osborne Williams
John E. Winter
R. S. Woodworth

4. It was announced that 1,204 persons were elected Associates of the APA as of January 1, 1953, as reported in the *American Psychologist,* 1953, 8, 42–47.

5. It was announced that the following persons, elected as Associates as of January 1, 1953, failed to confirm their election by payment of their first year's dues:

Lorraine E. Chamberlain
Harry J. Popper, Jr.
Margery R. Rosenberg
Jean B. Scheele
David J. Vogt
William A. Wilbanks

6. The Board reported that it had instructed the Central Office to send to APA members, when they become eligible according to the Bylaws, an invitation to become Life Members.

7. The Board reported that the President, in consultation with the Executive Committee of Division 20, will appoint a committee which will study problems involved in Life Membership and will communicate to the Policy and Planning Board such recommendations as may be agreed upon concerning Life Membership in the Association, in time for the spring meeting of the Policy and Planning Board.

8. The Board reported its commendation of the Membership Committee and its Technical Aide for their excellent work in preparing recommendations on the nomination of new Fellows and for their clear reporting of the relevant data.

9. Upon recommendation of the appropriate divisions and nomination by the Board of Directors, the Council elected the following 128 persons as Fellows of the APA, in a mail ballot:

Augusta Alpert	Division of Clinical and Abnormal Psychology
Holger W. Andersen	Division on the Teaching of Psychology
John Arsenian	Division of Clinical and Abnormal Psychology
David P. Ausubel	Division on Childhood and Adolescence
	Division of Clinical and Abnormal Psychology
Lyndon Babcock	Division of Psychologists in Public Service
Marcella Vig Baldwin	Division of Clinical and Abnormal Psychology
Dorothy M. Barrett	Division of Counseling Psychology
John A. Bath	Division on the Teaching of Psychology
	Division of Educational Psychology
Alma Perry Beaver	Division on Childhood and Adolescence
Alice E. Bell	Division of Clinical and Abnormal Psychology
V. J. Bieliauskas	Division of Clinical and Abnormal Psychology
Helen Miriam Bishop	Division of School Psychologists
Julian Murray Blackburn	Division of Personality and Social Psychology
	Division on Maturity and Old Age
Harry W. Braun	Division of Experimental Psychology
Douglas W. Bray	Division of Personality and Social Psychology
	The Society for the Psychological Study of Social Issues
Daniel Brower	Division of Clinical and Abnormal Psychology
Thelma E. Brown	Division of Clinical and Abnormal Psychology
C. G. Browne	Division of Industrial and Business Psychology
Jerome S. Bruner	Division of Experimental Psychology
	Division of Personality and Social Psychology
Richard Centers	Division of Personality and Social Psychology
Jerry Hollis Clark	Division of Clinical and Abnormal Psychology
	Division of Counseling Psychology
Frances M. Clarke	Division of School Psychologists

Walter W. Cook	Division on Evaluation and Measurement
Wendell W. Cruze	Division of Educational Psychology
Robert S. Daniel	Division on the Teaching of Psychology
Robert Alexander Davis	Division of Educational Psychology
Roy W. Deal	Division on the Teaching of Psychology
Marian A. Despres	Division on the Teaching of Psychology
Morton Deutsch	The Society for the Psychological Study of Social Issues
Leonard W. Doob	Division of General Psychology
Carl P. Duncan	Division of Experimental Psychology
Paul Eiserer	Division of Clinical and Abnormal Psychology
Adolph G. Ekdahl	Division of Counseling Psychology
S. Norman Feingold	Division of Counseling Psychology
Burton R. Fisher	Division of Personality and Social Psychology
Donald W. Fiske	Division on Evaluation and Measurement
Cecil Max Freeburne	Division on the Teaching of Psychology
	Division of Experimental Psychology
	Division of Educational Psychology
Clifford P. Froehlich	Division of Counseling Psychology
Dorothy Sutton Fuller	Division of Clinical and Abnormal Psychology
Nathaniel Lees Gage	Division of Personality and Social Psychology
	Division of Educational Psychology
J. Raymond Gerberich	Division on Evaluation and Measurement
Annette L. Gillette	Division of School Psychologists
Nathan M. Glaser	Division of Clinical and Abnormal Psychology
Mary Agnes Gordon	Division on Evaluation and Measurement
Albert E. Goss	Division of Experimental Psychology
Robert M. Gottsdanker	Division of Experimental Psychology
Nathan B. Gross	Division of Experimental Psychology
Ernest A. Haggard	Division of Experimental Psychology
William E. Hall	Division of Educational Psychology
Roy Miller Hamlin	Division of Clinical and Abnormal Psychology
Chester W. Harris	Division on Evaluation and Measurement
	Division of Educational Psychology
Keith J. Hayes	Division of Experimental Psychology
Arthur A. Hitchcock	Division of Counseling Psychology
Nicholas Hobbs	Division of Clinical and Abnormal Psychology
Eleanore M. G. Holzman	Division of Clinical and Abnormal Psychology
Robert M. Hughes	Division of Clinical and Abnormal Psychology
James E. Hulett, Jr.	Division of Personality and Social Psychology
E. Parker Johnson	Division of Experimental Psychology
Solis L. Kates	Division of Clinical and Abnormal Psychology
Evelyn Katz	Division of Clinical and Abnormal Psychology
Philip Morton Kitay	Division on the Teaching of Psychology
Seymour G. Klebanoff	Division of Clinical and Abnormal Psychology
Nathan Kohn, Jr.	Division of Counseling Psychology
Anneliese F. Korner	Division of Clinical and Abnormal Psychology
Jacob S. Kounin	Division on Childhood and Adolescence
Edward Landy	Division of Counseling Psychology
Frank Laycock	Division on the Teaching of Psychology
Alfred McClung Lee	The Society for the Psychological Study of Social Issues
Carroll Henry Leeds	Division of Educational Psychology
Max M. Levin	Division of Personality and Social Psychology
Daniel J. Levinson	Division of Personality and Social Psychology
Herbert S. Lewin	The Society for the Psychological Study of Social Issues
Alfred Lit	Division of Experimental Psychology
Edith E. Lord	Division of Clinical and Abnormal Psychology
Lester B. Luborsky	Division of Clinical and Abnormal Psychology
Robert William Lundin	Division on Esthetics
Morse P. Manson	Division of Counseling Psychology
Anna Martin	Division on the Teaching of Psychology
Dorothy R. Martin	Division on the Teaching of Psychology
Elmore A. Martin	Division of Clinical and Abnormal Psychology

William Ellsworth Martin	Division on Childhood and Adolescence
	Division of Personality and Social Psychology
Jack Mathews	The Society for the Psychological Study of Social Issues
Paul E. Meehl	Division of Experimental Psychology
Ivan Norman Mensh	Division of Personality and Social Psychology
	Division of Clinical and Abnormal Psychology
Frieda Kiefer Merry	Division on Childhood and Adolescence
Ralph Vicker Merry	Division on the Teaching of Psychology
Eleanor Olmstead Miller	Division on the Teaching of Psychology
Henryk Misiak	Division of General Psychology
William G. Mollenkopf	Division on Evaluation and Measurement
George A. Muench	Division of Clinical and Abnormal Psychology
Helmer R. Myklebust	Division of Clinical and Abnormal Psychology
R. Dale Nance	Division on the Teaching of Psychology
Otto R. Nielsen	Division of Educational Psychology
Ralph D. Norman	Division of Clinical and Abnormal Psychology
Gerald R. Pascal	Division of Clinical and Abnormal Psychology
A. J. Pellettieri	Division of Clinical and Abnormal Psychology
Karl C. Pratt	Division on Childhood and Adolescence
Nicholas H. Pronko	Division of General Psychology
E. Llewellyn Queener	Division of Personality and Social Psychology
Donald A. Rothschild	Division on the Teaching of Psychology
O. Ruth Russell	Division on the Teaching of Psychology
Salvatore Russo	Division on Childhood and Adolescence
Bert R. Sappenfield	Division of Personality and Social Psychology
Isidor W. Scherer	Division of Clinical and Abnormal Psychology
Douglas G. Schultz	Division on Evaluation and Measurement
Louise Baird Seronsy	Division on the Teaching of Psychology
Mandel Sherman	Division on Childhood and Adolescence
Edwin Shneidman	Division of Clinical and Abnormal Psychology
Elsa M. Siipola	Division of Personality and Social Psychology
Ray Hamill Simpson	Division of Educational Psychology
Anthony J. Smith	The Society for the Psychological Study of Social Issues
Velma V. Spaulding	Division of Clinical and Abnormal Psychology
Dorothy Tilden Spoerl	Division on Childhood and Adolescence
Harry C. Steinmetz	Division on Evaluation and Measurement
Barbara S. Stewart	Division of Clinical and Abnormal Psychology
Charlyne T. Storment-Seymour	Division of Clinical and Abnormal Psychology
Robert C. Topper	Division of Clinical and Abnormal Psychology
Julius E. Uhlaner	Division of Industrial and Business Psychology
Charles A. Ullmann	Division of Clinical and Abnormal Psychology
William W. Wattenberg	Division on the Teaching of Psychology
Wilse B. Webb	Division of Experimental Psychology
Henry Weitz	Division of Counseling Psychology
William Marshall Wheeler	Division of Clinical and Abnormal Psychology
Lester E. Wiley	Division of General Psychology
	Division of Experimental Psychology
Clark L. Wilson	Division of Industrial and Business Psychology
Robert F. Winch	Division of Personality and Social Psychology
Asahel Davis Woodruff	Division of Educational Psychology
Frederick Zehrer	Division of Clinical and Abnormal Psychology

10. The following persons, already Fellows of the APA, were nominated and elected to the status of Fellow in the divisions indicated:

Thelma G. Alper	Division on Childhood and Adolescence
Ruth Andrus	Division of Clinical and Abnormal Psychology
Albert LeRoy Billig	Division of Clinical and Abnormal Psychology
Joseph M. Bobbitt	Division of Consulting Psychology
Benjamin Burack	The Society for the Psychological Study of Social Issues
Thomas Olen Burgess	Division on Maturity and Old Age
Wendell R. Carlson	Division of Consulting Psychology

Jerry W. Carter, Jr.	Division of Consulting Psychology
Launor F. Carter	Division of Experimental Psychology
	Division of Military Psychology
Clara Chassell Cooper	The Society for the Psychological Study of Social Issues
Herman de Fremery	Division on Childhood and Adolescence
Salvatore DiMichael	Division of Clinical and Abnormal Psychology
Allen L. Edwards	Division of Consulting Psychology
Mary I. Elwood	Division on Childhood and Adolescence
Frank W. Finger	Division on the Teaching of Psychology
Erika Fromm	Division on Childhood and Adolescence
Sol L. Garfield	Division of Consulting Psychology
B. von Haller Gilmer	Division of Industrial and Business Psychology
Edward M. Glasser	Division of Consulting Psychology
Calvin S. Hall	Division of Personality and Social Psychology
Sara S. Hawk	Division on Childhood and Adolescence
Julia H. Heinlein	Division on the Teaching of Psychology
Florence A. Heisler	Division on Childhood and Adolescence
Harry Helson	Division of General Psychology
Ralph A. Hinton	Division on Childhood and Adolescence
Newman L. Hoopingarner	Division on the Teaching of Psychology
Ruth M. Hubbard	Division of Consulting Psychology
Marshall R. Jones	Division of Consulting Psychology
Samuel A. Kirk	Division on Childhood and Adolescence
Kenneth K. Loemker	Division on the Teaching of Psychology
John W. Macmillan	Division of Consulting Psychology
Eli S. Marks	Division on Evaluation and Measurement
Selinda McCaulley	reinstated in Division of Consulting Psychology
Erland N. P. Nelson	Division on the Teaching of Psychology
Maurice Newberger	Division of Clinical and Abnormal Psychology
Robert Morris Ogen	Division of General Psychology
Edna R. Oswalt	Division on Childhood and Adolescence
H. H. Remmers	Division on Evaluation and Measurement
Gilbert J. Rich	Division on Childhood and Adolescence
Seymour Sarason	Division on Childhood and Adolescence
Earl William Seibert	Division on the Teaching of Psychology
Edward Joseph Shoben, Jr.	Division of Personality and Social Psychology
	The Society for the Psychological Study of Social Issues
	Division of Consulting Psychology
	Division of Counseling Psychology
Marie Skodak	Division of School Psychologists
M. Brewster Smith	Division of Personality and Social Psychology
James C. Stauffacher	Division of Consulting Psychology
William H. Thompson	Division on Childhood and Adolescence
Thelma G. Voorhis	Division on Childhood and Adolescence
Howard R. White	Division of Consulting Psychology
Irving C. Whittemore	Division of Industrial and Business Psychology
Malcomb James Williams	Division of Educational Psychology

E. AFFILIATIONS

1. Upon the recommendation of the Conference of State Psychological Associations, the Council voted to approve for affiliation with the APA and as members of the Conference of State Psychological Associations the psychological associations of Nebraska and New Hampshire.

F. PUBLICATIONS

1. It was voted to receive with thanks the report of the Council of Editors.

2. The Board reported that it had invited the Chairman of the Council of Editors and the Chairman of the Publications Board jointly to prepare for the *American Psychologist* within the next few months an article on publication problems and policies, and that it anticipated the publication of such an article to become an annual practice.

3. The report of the Publications Board was received with thanks.

4. The Council approved the following page allocations for 1954:

		Change from 1953
American Psychologist	200 plus official publications	0
Journal of Applied Psychology	432	0
Journal of Abnormal and Social Psychology	544	0
Journal of Comparative and Physiological Psychology	432	0
Journal of Consulting Psychology	480	0
Journal of Experimental Psychology	800	0
Psychological Abstracts	960	+48
Psychological Bulletin	532	+60
Psychological Monographs	600	0
Psychological Review	400	0

5. It was voted that the Publications Board be instructed to appoint a task committee to prepare, in collaboration with Central Office personnel, an explicit plan for a study of communication in psychology and that this plan serve as the basis for a request by officers of APA for appropriate support from the National Science Foundation.

6. It was voted that the following statement be approved and directed to the attention of those persons inside and outside the Association who have influence on the policy and budgets of research-supporting agencies: "A research program is not complete without the dissemination of findings having general scientific significance. Publishing is an integral part of the research process, and should be supported on the same basis as any other part. Agencies sponsoring research, including universities, should make adequate provision for publication of results in any appropriation for a research program. It is particularly undesirable to leave the burden of paying for publication as a personal charge upon the scientist himself."

7. It was voted that (*a*) full printing costs should be charged for early publication in Association journals, such costs to be based upon the weighted average cost of printing in all journals; (*b*) the Treasurer should be empowered to enter into contracts to provide early publication service to institutions at the rates fixed for other authors. (For 1954 these charges will amount to approximately $27 per 1,000 words of typed space, regardless of type of material, or about $20 a page.)

8. The Council adopted the following three principles to clarify APA policy with regard to journal editors: (*a*) that the Association bear all the direct expenses of editing a journal, or at least be prepared to do so as a routine matter whenever other direct support is not available; (*b*) that the Association continue to pay stipends to its editors; and (*c*) that the stipend of journal editors be increased from $600 to $1,000 per editor, for editors of all journals except the *American Psychologist*. For purposes of clarification, it was stipulated that the editorial stipend be paid for those years during which the journal actually appears under the particular editorship.

9. It was voted that any publication charges other than for alteration of proof by the author should be borne by the APA rather than by the author, this policy to become effective January, 1954. (It is understood that the practice of giving to each author 50 free offprints will be continued.)

10. It was voted that *Psychological Abstracts* be made available to foreign psychologists (i.e., those outside the membership area of U. S. and Canada) at the "club" rate, plus shipping charges, if such an arrangement is compatible with postal regulations, and that this privilege be extended to corporate as well as individual subscribers.

11. The Board reported that it had instructed the Executive Secretary to provide the APA Publication Manual to foreign psychological laboratories, on their request, and to announce its availability on this basis.

12. The Council voted that, in the election of APA journal editors, the Publications Board be permitted to submit a slate containing only one name, when the interests of APA are best served by such a procedure.

13. In connection with a Policy and Planning Board recommendation that the Board of Directors elect editors of APA journals, the Council voted that the Policy and Planning Board consider further the desirability of revising the Bylaws to make this procedure possible.

14. The Board reported that it had instructed the Executive Secretary to have APA journals copyrighted at the first feasible date.

15. The Board reported that it had asked the Publications Board to make a further study of the current practices of granting reproduction rights for copyrighted materials and of the possibility of charging for reproduction rights.

16. The Board reported that it had requested

the Publications Board and the Central Office to study further the problem of APA publication of books of readings.

17. The report of the Advisory Editors of the *Journal of Educational Psychology* was received with thanks.

18. The Board reported its decision to (*a*) instruct the Advisory Editors of the *Journal of Educational Psychology* henceforth to report to the Publications Board, and (*b*) to invite the Publications Board to study publication outlets in the field of educational psychology and training research, with the suggestion that the Publications Board make appropriate communication with Division 15.

19. The Council voted to receive the report of the editors of the *American Psychologist* with thanks and commendation.

G. FINANCES AND BUDGET

1. The report of the Finance Committee was received with thanks.

2. The Board reported that it had encouraged the Finance Committee and the Central Office to consider ways of simplifying and clarifying the categories used in the preparation of the budget.

3. The Board reported that it had instructed the Finance Committee and the Central Office to adopt the proposed simplified plan of allocating administrative costs among the various journals.

4. It was voted that the Finance Committee be given discretionary power to invest up to half of APA assets other than real estate in preferred and common stocks and the remainder in bonds.

5. The Board reported that it had empowered the Executive Secretary to invest current cash funds in Treasury bills and/or savings accounts.

6. It was voted that $10,000 be allocated for public information activities for the coming year, with the stipulation that such funds be used solely for public information, rather than for promotional, activities.

7. The Council approved a budget of $9,000 of APA funds for the Education and Training Board for 1953–54.

8. It was voted that the practice of having a half-time Technical Aide to the Conference of State Psychological Associations be continued for another year, and that the APA contribute $1,500 for this purpose.

9. It was voted that $350 be appropriated for the Advisory Committee on State Legislation.

10. It was voted that the Committee on Mental Health Programs be given a budget of $750.

11. It was voted that a $500 appropriation be granted to the Committee on Relations with the Social Work Profession for 1953–54.

12. The Council again voted to grant the sum of $100 to the National Society for Medical Research.

13. It was voted that APA budget $500 to pay travel expenses of APA delegates to AAAS.

14. It was voted that $1,000 be budgeted for the expenses of the reconstituted committee on the Directory of Psychological Service Centers.

15. The Board informed the Council of its plan to make an initial loan to the Board on the Directory of Psychological Service Centers, when the latter is incorporated, to permit such Board to initiate operations.

16. The Board reported that it had empowered the Treasurer and the Executive Secretary to loan $6,500 to the Fourteenth International Congress of Psychology.

17. The Council voted to adopt the following APA budget for 1954:

APA BUDGET FOR 1954

Income

DUES		$181,170.00
Fellows (@ 16.50)	$ 25,000.00	
Associates (@ 11.50 and 16.50)	139,300.00	
Foreign Affiliates (@ 4.00)	320.00	
Division Dues	14,500.00	
Prior year dues and back-order fees	2,050.00	
SUBSCRIPTIONS		149,085.00
Student Journal Group Fees (@ 8.00)	8,500.00	
Member and student subscriptions		
Abnormal	8,050.00	
Applied	3,080.00	
Comparative	1,400.00	
Consulting	5,950.00	
Experimental	3,550.00	
Monographs	2,100.00	
Review	6,000.00	
Abstracts	300.00	
Bulletin	1,800.00	
AJP	1,330.00	
Club A	28,200.00	
Nonmember subscriptions		
American Psychologist	5,650.00	
Abnormal	10,770.00	
Applied	10,925.00	
Comparative	4,000.00	
Consulting	6,980.00	

Experimental	11,600.00	
Abstracts	11,525.00	
Bulletin	6,800.00	
Monographs	3,475.00	
Review	7,100.00	
OTHER PUBLICATION INCOME		46,950.00
Reprints	6,000.00	
Prior and extra publication	9,200.00	
Single and back issues	16,000.00	
Monograph authors	2,750.00	
Advertising	13,000.00	
MISCELLANEOUS INCOME		25,150.00
Application fees	2,800.00	
Interest on investments	3,500.00	
Use of addressograph	1,500.00	
Annual meeting	3,000.00	
Employment Bulletin	1,850.00	
Income from Rent	10,200.00	
Conf. State Psychological Assns.	1,500.00	
Miscellaneous Income	800.00	
TOTAL INCOME		$402,355.00

Expenses

PUBLICATION EXPENSE		267,639.00
Printing		
American Psychologist	30,870.00	
Abnormal	15,700.00	
Applied	9,700.00	
Comparative	8,825.00	
Consulting	9,925.00	
Experimental	16,225.00	
Abstracts	35,280.00	
Bulletin	14,885.00	
Monographs	13,230.00	
Review	9,975.00	
Directory	10,000.00	
Technical Recommendations for Psychological Tests, Public Information Handbook, and *Ad Hoc* Report on Relations with Other Professions	4,800.00	
Purchase of AJP subscriptions	4,424.00	
Reprints	8,500.00	
Editorial Stipends	9,000.00	
Editorial Expense	4,500.00	
Abstracts office expense		
Salaries	7,900.00	
Abstractors and translators	500.00	
Supplies and miscellaneous	1,100.00	
APA office publication expenses		
Salaries	46,900.00	
Supplies, postage, telephone, misc.	5,400.00	
BOARDS AND COMMITTEES		36,100.00
Board of Directors	2,000.00	
Council of Editors	1,000.00	
Relations with Social Work	500.00	
Publications Board	1,000.00	
Relations with Psychiatry	500.00	
Program	500.00	
Scientific and Professional Ethics	500.00	
Policy and Planning Board	2,000.00	
International Relations	500.00	
Relations with Other Professions	500.00	
Public Relations	300.00	
House	100.00	
State Legislation	350.00	
E & T Board	9,000.00	
Finance	300.00	
Membership	300.00	
Academic Freedom	500.00	
Ethical Standards	200.00	
Ad Hoc Committee on Program Policy	500.00	
Building Fund	500.00	
ABEPP	5,000.00	
Dir. Psychol. Service Centers	1,000.00	
Prof. Liability Insurance	300.00	
Library	300.00	
Group Insurance	200.00	
Participation in Association Affairs	500.00	
International Congress	6,500.00	
Mental Health Programs	750.00	
Representatives to AAAS	500.00	
GENERAL APA ACTIVITIES		74,700.00
Dues to Divisions	8,500.00	
Recording Secretary	400.00	
Annual meeting	1,700.00	
Annual election	1,800.00	
Professional service	4,500.00	
Public relations	10,000.00	
Central Office		
Salaries	38,100.00	
Conf. State Psychol. Assns.	1,500.00	
Supplies and miscellaneous	5,400.00	
Travel, Exec. Sec. and Central Office	2,000.00	
Memberships and contributions	800.00	
BUILDING EXPENSE		19,500.00
Upkeep	1,000.00	
Taxes	3,000.00	
Supplies and miscellaneous	1,000.00	
Utilities	3,200.00	
Depreciation	7,500.00	
Janitor	3,800.00	
CONTINGENCY FUND		3,000.00
RESERVE FUND		20,000.00
TOTAL EXPENSES		420,939.00
DEFICIT		18,584.00

H. PROPOSED CHANGES IN APA BYLAWS

1. It was voted that a proposed change in the Bylaws to make the Chairman of the Conference of State Psychological Associations automatically a member of the Board of Directors be submitted to a mail vote of the membership, and that it be ac-

companied by the explanatory statements prepared by Harriet E. O'Shea, the P & P Board, the Board of Directors, and the Council of Representatives. The Board and the Council went on record as opposed to the above Bylaws change, first, for the reasons given by the P & P Board and, second, because the proposed solution is premature and should not be put in effect until the P & P Board study of relations of the CSPA and APA is completed. The Council is confident that a better solution can be found after such a study by the Policy and Planning Board.

2. The Board reported that it had instructed that the Bylaws changes recommended by the Committee on Scientific and Professional Ethics and Conduct be drafted appropriately by the President and the Executive Secretary in consultation with the APA attorney, and when so drafted be submitted to Council by mail ballot.

3. Following a discussion of the disposition of unexpended divisional funds and an expression of opinion by the representatives of each division, the Council voted to submit to the membership for mail ballot an amendment to the APA Bylaws, to be prepared by the Executive Secretary in consultation with the APA attorney, to the intent prescribed by the following recommendation: Funds remaining to the credit of any division at the end of any fiscal year may, upon request by that division, be allowed to accumulate to the credit of that division to an extent to be determined jointly by the Board of Directors and the division in question. Unexpended money in excess of this total shall revert to the treasury of the APA.

I. FUTURE MEETINGS

1. It was reported that the 1954 meeting will be held at the Penn Zone hotels in New York City on September 3–8; the 1955 meeting will be in San Francisco.

2. The Council was informed that it was the sense of the Board that the 1956 meeting be held in one of the following locations: Chicago, Detroit, or Miami Beach. It was also reported that the Board had instructed the Central Office to secure further information regarding these locations and to conduct an advisory poll of a sample of the membership to ascertain preference. The Council will receive the results, together with a mail ballot, before the end of the current year.

J. MISCELLANEOUS

1. Upon the recommendation of the membership of Division 15, the Council voted to empower the Board of Directors to appoint a Committee on the Relationships between Psychology and Education, to propose means for formulating the problems of the relationships between other fields of psychology, educational psychology, and the profession of education. This Committee will act in coordination with the Education and Training Board, Division 15, and other interested divisions.

2. The Council voted that APA provide public information functions at regional association meetings at the expense of APA.

3. The Council voted that APA provide placement service at meetings of those regional associations which desire it. In view of the fact that both members and nonmembers of the APA will receive such services, the cost of the placement service shall be jointly borne by APA and by the Regional Association, the contribution of the regional association being prorated on the basis of the number of members in the regional association.

4. The Board reported that it has instructed that the Technical Recommendations for Psychological Tests and Diagnostic Techniques, the Public Information Handbook, the *Ad Hoc* Committee statement entitled "Psychology and Its Relation with Other Professions," and other appropriate documents be published by the APA; and that the mechanics of reproduction and distribution be the responsibility of the Central Office.

5. The Board reported that it had authorized the President to appoint a committee to work in conjunction with the APA Program Committee and the Columbia University Bicentennial Committee to plan and organize a suitable program to be held during the 1954 APA convention in New York City.

6. The Board reported that it had declined with thanks the offer by Testscor to donate a bust of E. K. Strong for the APA building.

7. There was some discussion of the proper role of APA in connection with current evidence of anti-intellectualism.

8. It was reported that the President and Executive Secretary had held an informal discussion with officers of the American Psychiatric Association, and that it was the sense of the Board of Directors

that the substance of these conversations be reported in the *American Psychologist*.

9. There was discussion from the floor regarding suggested changes in the Convention Program. The divisions were invited to submit their recommendations in writing to the Chairman of the *Ad Hoc* Committee on Convention Program Policy.

10. Council members were invited to give some thought to ways in which Council meetings should be conducted in the future in order to insure maximum participation by Council members.

11. The Board announced that, owing to O. Hobart Mowrer's temporary illness, Laurance F. Shaffer would serve as Acting President until Dr. Mowrer's recovery.

12. The Council resolved that the American Psychological Association hereby express its genuine appreciation to the city of Cleveland, to the Cleveland Convention Bureau, and to the Allerton, Cleveland, Hollenden, and Statler Hotels for the hospitality extended to the Association during its Sixty-first Annual Meeting; and that the Council further express great appreciation to Erwin K. Taylor and to his many colleagues on the Local Arrangements Committee for the remarkable efficiency and effectiveness with which this convention has been organized and the many and varied needs of our members have been met.

REPORT OF THE RECORDING SECRETARY ON THE SPRING MEETING OF THE BOARD OF DIRECTORS AND PRECEDING INTERIM ACTIONS

To the Council of Representatives:

The Board of Directors met in the Board Room of the APA Building in Washington, D. C., on April 9 from 10:00 A.M. to 5:00 P.M. and from 8:30 P.M. to 10:00 P.M.; on April 10 from 9:00 A.M. to 4:00 P.M.; on April 11 from 9:00 A.M. to 8:30 P.M.; and on April 12 from 9:00 A.M. to 5:00 P.M.

The following Board members were present: Laurance F. Shaffer, O. Hobart Mowrer, J. McV. Hunt, Carroll L. Shartle (absent on April 10), Rensis Likert, Jean W. Macfarlane, Arthur W. Melton (absent on April 10), Nicholas Hobbs, Paul R. Farnsworth, Lee J. Cronbach, Fillmore H. Sanford, and Anne Anastasi.

I. REPORTS OF APA OFFICERS, BOARD OF DIRECTORS, AND COUNCIL OF REPRESENTATIVES

A. Reports of Actions Taken Since September, 1952

1. *Interim action of Council of Representatives*

The Council voted to change the location of the 1953 meeting to Cleveland, Ohio.

2. *Interim actions of the Board of Directors*

a. Approval of an APA contribution of $100 to the National Society for Medical Research.

b. Election of 1,204 new Associate members of APA.

c. Election of Herbert S. Langfeld and Donald G. Marquis as APA representatives to the Assembly of the International Union of Scientific Psychology.

d. Approval of the acceptance of a gift of $1,000 from the Midwestern Psychological Association for the purchase of a conference table for the Board Room in the new APA headquarters. In discussing this interim action, the Board recommended that a letter signed by the President of the APA be sent to MPA, expressing strong appreciation of the gift.

e. Approval of the recommendation from the Publications Board that APA not accept responsibility for the publication of *Psychological Book Previews*.

f. Approval of APA participation in the proposed Scientific Manpower Commission.

g. Election of Dael Wolfle and Leonard Carmichael as APA Representatives to the Scientific Manpower Commission.

h. Approval of a budget of $800 for the Committee on a Directory of Psychological Service Centers.

i. Approval of the E & T Board recommendation that APA request $14,000 from USPHS to support the E & T program for the fiscal year 1953–54.

j. Approval of Division 7's request to accept a grant of $1,000 from the Field Foundation to finance the work of a Division 7 Policy and Planning Board.

k. Approval of the Division 16 proposal to hold a work conference on the qualifications and training of school psychologists, and approval of the solicitation of outside funds to support the conference.

l. Election of Edwin G. Boring, John F. Dashiell, David Shakow, Edward C. Tolman, and Robert S.

Woodworth to the Committee on Fund Raising for the APA Building.

m. Passing of the following motion regarding restrictive legislation:

> Moved that the Board of Directors of APA is opposed to legislation restricting to any one profession the application of psychological techniques and knowledge. Public welfare demands that such services be the joint responsibility of many professions, including psychology, medicine, education, the ministry, and social work, and should not be limited to any one of them.

3. *Interim actions of the President*

a. Appointment of Leonard Carmichael and Dael Wolfle to serve as incorporators of the Scientific Manpower Commission.

b. Appointment of the *Ad Hoc* Committee on Central Office, consisting of: Donald E. Baier (chairman), Thomas G. Andrews, Carroll L. Shartle, and Denzel D. Smith.

c. Appointment of the following APA delegates to the ceremonies and functions indicated:

DELEGATE	OCCASION	DATE
Charles C. Josey	Inauguration of Russell J. Humbert as President of DePauw University	October 18, 1952
John G. Beebe-Center	100th Anniversary of Tufts College	October, 1952
John E. Bentley	Organization Members of the American Council on Education	January 30–31, 1953
Paul C. Greene	Representative to the Eighth National Conference on Higher Education	March 5–7, 1953
James D. Page	Delegates to the annual meeting of the American Academy of Political and	
Robert W. Gilmore	Social Science	April 10–11, 1953
Joseph L. Norton	Inauguration of Robert Wesson Gibson as President of Monmouth College and Centennial Convocation	April 17, 1953
William P. Grove	Inauguration of John Thomas Wahlquist as President of San Jose State College	May 1, 1953
M. O. Wilson	Inauguration of Oliver S. Willham as President of Oklahoma A & M and dedication of new Library Building	May 7–8, 1953
Eleroy L. Stromberg	Inauguration of G. Brooks Earnest as President of Fenn College	May 9, 1953
Merton E. Carver	Inauguration of Alvin Duke Chandler as President of the College of William and Mary	May 15, 1953
Leon J. Yarrow	National Conference on Program Planning in Games and Sports for Boys and Girls of Elementary School Age	May 25–26, 1953

4. *Report of the Treasurer*

The Treasurer's Report on the 1952 Finances of the APA was received with thanks.

5. *Report of the Executive Secretary on actions implementing instructions by Board and Council at September 1952 meetings*

a. Summary report on 1952 committee reports was prepared for the November *American Psychologist.*

b. Various cooperative communications were executed as liaison activities with Psi Chi.

c. Insurance for APA property and employees was procured, providing adequate coverage against most risks and liabilities.

d. The services of a part-time public relations consultant were procured, Michael Amrine having been employed in this capacity since September, 1952.

II. REPORTS OF COMMITTEES AND SPECIAL BOARDS

A. Ad Hoc *Committee on Convention Program Policy*

The report of the *Ad Hoc* Committee on Convention Program Policy was received with thanks.

The Board voted: (*a*) to continue the committee; (*b*) to rotate the chairmanship of this committee, Launor F. Carter becoming the next chairman by this system; (*c*) to instruct the Central Office to prepare a summary statement of the issues presented by the convention program, suggesting tentative solutions as a stimulus to discussion, and to send this statement to each divisional president, with copies to all other officers, representatives, executive committee members, and program committee members of divisions. The object of this communication is to elicit from each division an expression of judgment on specific questions. Accordingly,

divisional representatives are to be notified that they will be expected to come to the September meeting of the Council prepared to discuss these issues and to report divisional sentiment. It was also recommended that the Executive Secretary add to this statement questions regarding effective ways to coordinate divisional activities on common problems, the circulation of committee reports among divisions, etc.

B. Committee on International Relations in Psychology

The report of the Committee on International Relations in Psychology was received with thanks.

It was voted that the Board looks with favor upon the preparation of an International Directory of Psychologists by the International Union of Scientific Psychology and recommends that the International Union of Scientific Psychology give consideration to and if possible sponsor the preparation of such a Directory. The Board requested that the APA representatives to the IUSP be instructed regarding this motion.

It was voted to notify Werner Wolff that the Board had discussed with interest the communication regarding the Inter-American Society of Psychology, but decided to take no action on the matter at this time.

C. Committee on a Directory of Psychological Service Centers

A communication from the Chairman of the Committee on a Directory of Psychological Service Centers was received with appreciation.

It was recommended that the Executive Secretary convey informally to the Committee on a Directory of Psychological Service Centers and to ABEPP the sense of the Board that consideration be given to whether ABEPP could assume the responsibility of evaluating agencies for inclusion in the directory.

D. Committee on Relations with the Social Work Profession

The Board voted to grant an additional sum of $300 to the Committee on Relations with the Social Work Profession, as requested by this Committee.

E. Membership Committee

1. A report entitled "Who is a Psychologist," prepared by O. Hobart Mowrer, was received with thanks. This report centered principally around the distinction between supervised and independent psychological practice as a possible basis for classifying psychologists and setting up standards for qualification.

2. It was noted that the Membership Committee has difficulty in interpreting the requirement of "one full academic year of graduate work in psychology." Such questions are involved as the variation in number of hours constituting one full year of academic work at different universities, the adequate spread of the applicant's courses in the fundamentals of psychology, the inclusion of a year of laboratory work and statistics; and the like.

The Board voted to note the problem but take no action at present, and to instruct the Membership Committee to report its experiences with this problem next year.

3. There was extended discussion of the problem of unsupervised private practice in relation to the fulfillment of certain membership requirements.

It was voted that the Board interprets membership qualifications to mean that "full-time employment in work that is primarily psychological in nature" must be in work for which the individual is qualified. If, in the judgment of the Membership Committee and the Board of Directors, the individual lacks the necessary qualifications for the work in which he is engaged, such employment does not fulfill the above requirements for APA membership.

4. The Board voted to instruct the Membership Committee to defer action on all applications for membership on which the Committee is doubtful regarding the adequacy of qualifications based upon the applicant's current employment.

F. Education and Training Board

1. Upon the recommendation of the Chairman of the E & T Board, the Board of Directors voted to name Ann Magaret Garner to the Practicum Committee to replace Isabelle V. Kendig, who has resigned because of ill health.

2. The Board received with thanks a report from the E & T Board on "Relations of the American Psychological Association with the National Commission on Accrediting and the Regional Associations in the Evaluation of Educational Programs in Psychology."

3. The Board voted that the APA cooperate with the regional accrediting associations in exploring

the possibilities of working together with such associations toward realizing the essential objectives for which accreditation is undertaken.

4. The Board voted to refer to the E & T Board, with power to act, the matters of (*a*) designating a representative of the APA to work with the executive assistant of MSA on the construction of questionnaires; and (*b*) nominating a panel of visitors to represent psychology.

5. The Board voted to express the willingness of APA to explore the bases for the interchange of information from responsible sources with MSA.

6. The Board received a preliminary report on institutions whose training programs for counseling have been evaluated by the E & T Committee on Doctoral Training. This report had not yet been submitted to the E & T Board for approval.

The Board voted to empower the President and Executive Secretary of APA and the Executive Officer of the E & T Board to act in the above matter pertaining to the evaluation of counseling training programs, and to publish a list of approved institutions following action by the E & T Board, provided that in the opinion of the three above-mentioned officers no serious issue is involved. Otherwise, the matter was to be submitted to the APA Board of Directors for a mail ballot.

7. The Board discussed at some length various ways for increasing the effectiveness of operation of the E & T Board.

The Board voted that, since it now appears that various regional associations of the National Commission on Accreditation may assume many of the accrediting functions of the E & T Board, the APA Board of Directors would like to learn from the E & T Board what it sees as its functions for the next few years, whether its present form and committee structure should be retained, or what changes should be made.

8. The Board voted to express its appreciation and commendation of the excellent work done by Bruce V. Moore as Executive Officer of the E & T Board, especially in connection with the relationships of the APA to accrediting associations.

H. Committee on Public Relations

1. The Board voted to recommend further circulation of the Public Relations Guide to Council members and to heads of psychology departments, with a view to obtaining suggestions regarding the Guide.

2. The Board voted that, following receipt of suggestions, the Executive Secretary, in cooperation with the Committee on Public Relations, arrange for the appropriate reproduction of the Public Relations Guide and for its distribution to all APA members.

3. It was voted to insert in the Public Relations Guide a preface or foreword by the Board of Directors, and to empower the President, Executive Secretary, and Rensis Likert to prepare such an introduction.

4. The Board voted that the problem of the mechanics of reproduction of such miscellaneous publications of the APA as the Public Relations Guide, Ethical Standards of Psychologists, Publication Manual, Bylaws, and Rules for Animal Experimentation be referred to the Central Office, the outcome of this consideration to be submitted to the Board of Directors.

5. The Board voted to appoint Fillmore H. Sanford, Lee J. Cronbach, and Nicholas Hobbs as a Committee of the Board to consider whether there should be a combined APA Handbook, and if so, what it should include.

6. There was considerable discussion of the question of "internal public relations," a question on which the Committee on Public Relations had invited Board reactions. Individual Board members contributed a variety of specific suggestions, some of which were acted upon by the Board at this time.

a. The Board voted to instruct the Central Office to explore details regarding cost, practicality, and potential extent of use of a sound film, or of still pictures with sound, portraying the activities of the Central Office. Following such exploration, the Central Office was instructed to report back to the Board.

b. The President suggested, and the Board concurred, that it is appropriate for the retiring President to introduce the incoming President to the members of the APA at the end of the meeting at which APA officers present their reports to the membership. Following his introduction, the incoming President will close the meeting.

c. The Board voted to empower the Executive Secretary to purchase, at the expense of the Association, a gavel to be employed at the annual meeting and transmitted by the retiring President to the incoming President.

d. The Board voted to recommend to the Convention Program Committee that a "general inter-

est session" be scheduled at the annual APA convention, at which will be presented papers originating in different areas of psychology, selected because of their outstanding merit, their representativeness of research in their respective areas, and their wide interest to psychology as a whole. It was further recommended that such papers be drawn from papers actually submitted to each division, that promising papers be nominated by the Divisional Program Committees and that the selected speakers be invited to enlarge their presentation to thirty minutes. The details regarding title of program and other matters of procedure for the coming convention were left to the discretion of the Convention Program Committee.

The Executive Secretary was instructed to transmit the above action to the Committee on Public Relations, as one of the Board recommendations regarding internal public relations.

7. George W. Albee reported at length on a number of procedures under consideration by the Committee on Public Relations for extending and strengthening the relations of psychologists with the general public, and for improving channels of communication.

8. It was voted that the Board is strongly in favor of expanded public information activities of the types proposed by the Committee on Public Relations; and that it instructs the committee to draw up guiding principles of the rationale and functions of a public information program for psychology, to formulate principles for operating such a program, to cite specific illustrations of ways to implement these principles, and to prepare estimates of cost to be submitted to the Board at its September meeting.

I. Committee on Professional Liability Insurance

1. It was voted that the name of the Committee on Malpractice Insurance be changed to Committee on Professional Liability Insurance.

2. The Report of the Committee on Professional Liability Insurance was received with thanks and with a special expression of appreciation for the chairman's efforts in obtaining the cooperation of Mr. John A. Appleman, who gave legal advice and prepared a report on the legal aspects of the problem. The Board instructed the committee to continue its work on the problem.

3. The Board voted that the Appleman report be received and its recommendations be accepted in principle.

4. The Board voted to authorize an expenditure of a sum not to exceed $500 to John A. Appleman for services already rendered.

5. The Board voted to invite ABEPP to consider becoming the screening agency to pass on the qualifications of applicants for professional liability insurance.

J. House Committee

The Board voted that the House Committee be commended with the special thanks and warm appreciation of the Association for a job well done, and that the members of the committee be individually thanked for their efforts.

K. Committee on Fund Raising for the APA Building

The Board voted to concur with the plans of the Committee on Fund Raising for the APA Building for a mail appeal for contributions, in which members will be informed regarding the present status of APA finances. It was further voted that lists of names of individual and organizational contributors (without amount of contribution) be published periodically, and that an announcement of this plan be included in the campaign appeal.

III. NOMINATIONS

A. A list of proposed nominees for boards and committees, which had been suggested by Council members, divisional officers, and committee chairmen, was available for the guidance of the Board. Slates to be submitted to the Council of Representatives were prepared for the following boards and committees: Publications Board, Finance Committee, Convention Program Committee, Committee on Scientific and Professional Ethics and Conduct, Committee on Student Activities, Committee on Public Relations, Membership Committee, Committee on Precautions in Animal Experimentation, Committee on International Relations in Psychology, Committee on Ethical Standards of Psychologists, Committee on Relations with the Social Work Profession, Committee on Academic Freedom and Conditions of Employment, Committee on Test Standards, Committee on Questionnaires, Committee on Utilization of Manpower, Committee on Professional Liability Insurance.

B. The Board voted to ask the Executive Officer of the E & T Board to submit recommendations regarding new members for E & T commit-

tees; and to act on these recommendations by mail ballot.

C. The Board voted to change the name of the Committee on Ethical Standards for Psychology to Committee on Ethical Standards of Psychologists.

D. The Board voted to ask the Committee on Audio-Visual Aids to formulate a statement of its functions and of the activities which the committee feels it should undertake; to present specific nominations for committee membership in the light of these functions; to give some thought to a possible revision in the name of the committee, a broader title such as Committee on Communications or on Mass Media appearing to be desirable; to consider the question of reducing the size of the committee; and to report its action on all of the above matters prior to the September meeting of the Board.

E. The Board voted to advise the Council that all committee chairmen be requested to inform the Board if they are unable to serve for a period of time, owing to illness, absence from the country, or other reasons, and that such committee chairmen suggest an acting chairman to be named by the Board, the above action applying to standing committees as well as to special committees.

F. The Chair appointed a Committee of the Board, consisting of Nicholas Hobbs (chairman), Lee J. Cronbach, and Rensis Likert, to consider the problem of broadening committee participation by APA members, and to report to the Board before the adjournment of the present session.

The committee reported on the following day. The Board received the report with thanks, and passed the following motions upon the recommendation of the committee.

1. The Board voted to add 13 proposed names, each marked with an asterisk, to the previously voted slates for specific committees, and to insert the following statement in the Council ballot:

> The Board of Directors has selected certain names for committee slates in a deliberate effort to bring into the work of the APA some of our able members who are not now involved. An asterisk denotes a person carefully selected by the Board, who has had little or no previous responsibility in the Association. The Board suggests that Council members consider these persons with this fact in mind, but not regard this as the only consideration determining votes.

2. The Board voted to suggest a list of 23 promising persons who had not previously been active in Association affairs to the E & T Board for its consideration in the preparation of committee slates, and to file this list for Board reference next year.

3. The Board voted to create a Committee on Participation in Association Affairs; and to instruct the committee to explore ways of broadening the base of participation and of discovering talent which can be put to use by the Association and the profession.

IV. FUTURE MEETINGS

A. 1954 Meeting

The 1954 meeting will be held at the Penn Zone hotels, in New York City. The Board instructed a committee consisting of the President, the President-elect, and the Executive Secretary to appoint as soon as possible a Chairman of Local Arrangements and Convention Manager for 1954. This committee subsequently appointed Albert S. Thompson to this post.

B. 1955 Meeting

It is planned to hold the 1955 meeting in San Francisco. The Board asked its California members, Jean W. Macfarlane and Paul R. Farnsworth, to give some thought to the selection of a Convention Manager for 1955 and to report to the Board at its Fall meeting, in order to permit early appointment of such a person.

C. 1956 Meeting

A number of invitations for the 1956 meeting were discussed by the Board, but final action was postponed until the Fall meeting.

D. The Fourteenth International Congress of Psychology

It was reported that arrangements for the Congress to be held in Montreal in June, 1954, were progressing satisfactorily under the guidance of the joint CPA-APA Committee. Donald G. Marquis is chairman of this committee, Father Noël Mailloux, of the University of Montreal, is secretary, and G. A. Ferguson, of McGill University, is treasurer.

V. PUBLICATIONS

A. The report on circulation and finances of the journals of the APA was received with thanks.

B. The Board discussed informally the proposals submitted by the Publications Board in reference to charges for prior publication in APA journals, but took no formal action regarding specific proposals. It was noted that current practices hold until Council votes to change them.

The Board voted to refer this matter back to the Publications Board for further consideration.

C. For the information of the Board, a brief report on the current status of the reprinted volume, "Psychoanalysis as seen by Analyzed Psychologists," was presented. The relatively small sale of this volume has slowed down plans to produce similar volumes by reprinting collections of articles from APA journals.

D. The Central Office provided preliminary data pertaining to the question of buying a printing press.

The Board voted to commend the Central Office for its study of this question, to express its interest in the problem, and to instruct the Central Office to continue its investigation of the matter.

E. It was the sense of the Board that the Executive Secretary, with such advice from Nicholas Hobbs as he may wish to obtain, explore informally the possibility of appointing a representative on psychology to the *American Scientist* and other scholarly publications of general interest.

F. The Board voted that the Board of Directors of the APA, which is an affiliated society of AAAS, views with approval the policies expressed in the Arden House Statement and looks forward to the implementation of these policies in the organizational structure, the activities, and the publications of the AAAS, and that a copy of this motion be transmitted to the AAAS.

VI. CENTRAL OFFICE

A. The Ad Hoc *Committee on the Central Office*

The Report of the *Ad Hoc* Committee on the Central Office was received with thanks and ordered published in the *American Psychologist,* after editing by the President and the Chairman of the Committee.

1. The Board voted that the Executive Secretary be authorized to select an additional psychologist for appointment to the Central Office staff.

2. The Board voted to instruct the President to appoint each winter a committee to consider, in cooperation with the Central Office staff, problems arising in the Central Office.

B. Personnel Matters

1. The Executive Secretary reported the appointment of Mrs. Betty Linden to replace Mrs. Helen S. Morford.

2. The Board voted to instruct the President to order that an item for expenses of the Central Office be included in next year's budget.

3. The Board received with thanks and discussed informally at some length a report prepared by Lorraine Bouthilet on certain long-term problems concerning the procurement and term of service of professional personnel in the Central Office.

4. The Board voted that, at the expense of the Association, the Executive Secretary provide life insurance for employees of the APA.

5. The Board voted that the entire staff of the Central Office be commended for their diligence and effectiveness in carrying on the functions of the Central Office and that this expression of appreciation be transmitted to the Central Office staff.

VII. THE APA BUILDING

A. Final Costs

Although the final bill had not yet been received from the contractor, the Executive Secretary cited $256,000 as the best present estimate of the cost of the building and its furnishings, including landscaping. This figure may be compared with two independent estimates of the value of the property, one for $300,000, the other for $329,000.

B. Occupancy Permit

It was reported that final inspection of the building by District of Columbia authorities had been completed and clearance granted for the use of all five floors for offices.

C. Tenants

There was some discussion of present and prospective tenants. It was the sense of the Board that the choice of tenants is the proper function of the Executive Secretary, with such advice from the House Committee as he may wish to obtain.

D. House Committee

The Board voted to reappoint Jerry W. Carter, Jr., Harry J. Older, and Thelma Hunt as the House Committee for the coming year, and to consider rotation of terms of office next year.

E. Library

The Board voted to appoint a special committee of the Board to be known as the Committee on the Central Office Library, consisting of Carl Murchison, chairman, Alice I. Bryan, and John W. Stafford.

F. A Psychological Museum

The Executive Secretary reported that he had investigated the possibility of foundation support for the establishment of a psychological museum in the Central Office building, but that the prospects of securing such support appear to be slight.

G. Offer of Gift from the James McKeen Cattell Fund

On the advice of the Executive Secretary, the Board voted to accept with thanks the contribution from the James McKeen Cattell fund, and to instruct the Executive Secretary to work out the details of an appropriate memorial for James McKeen Cattell.

VIII. DIVISIONS

A. The Board discussed the question of the reversion of unexpended division funds, a question which had been raised by Divisions 10, 15, and 20.

The Board voted that, subject to reconsideration upon examination of a specific proposal, this Board favors the policy of having each division retain unexpended division funds for use as it sees fit.

The Board instructed the Executive Secretary to communicate the above motion to Divisional Officers, together with specific questions regarding: (*a*) the mechanism for solving the problem of the reversion of unexpended divisional funds; and (*b*) the policy of having divisions solicit or accept outside funds for the support of divisional functions.

B. The Board voted to approve the request of Division 1 that the division be granted permission to accumulate funds for a period of three years, such funds to be employed for the purpose of inviting distinguished foreign psychologists to address the division and other members of APA.

C. The Board voted to approve the request of Division 14 to retain $200 from its 1953 funds for the purpose of publishing a Divisional Directory.

D. On the basis of information regarding the size of divisional membership, it was determined that the number of divisional representatives remain unchanged from last year.

IX. MEMBERSHIP

A. "Hardship" Cases

The Board discussed at some length the problems presented by APA members who are temporarily unable to pay membership dues. It was the sense of the Board that the Executive Secretary handle immediate cases according to his own discretion; and that he look into possible sources of funds for this purpose.

B. Life Membership

The Board considered the questions regarding Life Membership raised in an essay on this topic prepared by Edwin G. Boring and published in the *American Psychologist,* 1953, 8, 86–88.

The Board voted to refer the question of Life Membership, together with the contents of the Boring communication, to the Policy and Planning Board, and to invite the Division on Maturity and Old Age to give their thoughts on this matter to the Policy and Planning Board if they so wish.

C. Foreign Affiliates

The Board voted to rescind the action that foreign affiliates be listed in the 1953 Directory, in view of the fact that the editor of the Directory feels that the listing contains inaccuracies, and to refer the matter to the Executive Secretary and the editor of the Directory for further advice.

X. ELECTION PROCEDURES

A. Mechanism for Electing Co-President of the Fourteenth International Congress of Psychology

The Board voted that a nominating ballot for co-president of the Fourteenth International Congress of Psychology be enclosed in the regular APA ballot, with space for a single nomination; and that the names of the highest ranking nominees be submitted to the Council for final election.

B. Suggestion Regarding Election of APA President

A suggestion was received from an APA member to the effect that "nomination statements," including arguments in support of the presidential candidates on personal, divisional, and geographical grounds, be circulated with the nomination blanks.

This communication was noted but no action was taken.

XI. PROPOSED BYLAW REVISIONS

A. Possible Revision Pertaining to Matters of Ethics

The Board received a communication from a member of the Committee on Scientific and Professional Ethics and Conduct suggesting a change in

APA Bylaws to permit the automatic suspension of any member convicted of a felony. The Board voted that this suggestion be referred to the Committee on Ethical Standards of Psychologists, with the request that a discussion and opinion on this matter be prepared for consideration by the Board.

B. Proposed Revision Pertaining to Conference of State Psychological Associations

1. The Board received from the Indiana Psychological Association a petition signed by more than 200 members of APA, proposing that the APA Bylaws be revised to make the Chairman of the Conference of State Psychological Associations a member of the Board of Directors.

2. The Board voted to obtain an advisory opinion from the Policy and Planning Board regarding the proposed Bylaw change, and to present both the proposed change and the advisory opinion to the Council for action.

3. The Board voted that the Executive Secretary explore with the Conference of the State Psychological Associations in what ways the Conference feels that the Board has been insensitive to its problems in recent years, if any, and ask for suggestions for facilitating communication.

XII. ANTI-INTELLECTUALISM, LOYALTY OATHS, AND RELATED MATTERS

The Board discussed at some length issues and problems raised by current evidences of anti-intellectualism.

A. Publication in American Psychologist

It was the sense of the Board that emotional articles regarding loyalty oaths and investigations—or any other topics—ought not to be printed individually in the *American Psychologist,* but that such articles, if they are slanted toward the implications for psychology, could be incorporated in a symposium for which additional articles might be solicited.

B. Use of APA Addressograph Facilities

The Board voted that the addressograph facilities of the APA should not be used for any appeal for funds unless the appeal is sponsored by the APA.

C. Cooperation with AAAS

The Board expressed itself as pleased to cooperate in any efforts of the AAAS to insure the continuation of freedom of inquiry, and as favoring the publication of an informative newsletter on these matters. The Executive Secretary was instructed to communicate this sentiment informally to the AAAS.

D. Cooperation with Other Associations

The Board viewed with favor the suggestion that the Executive Secretary confer informally with the executive secretaries of other associations of scientists and scholars, such as AAAS and American Council of Learned Societies, regarding possible concerted action pertaining to anti-intellectualism.

E. Action Regarding the University of California

The Board voted that the "ban" on the seeking of employment by psychologists at the University of California be rescinded in view of present developments, but expressed concern regarding the failure of the university to make restitution of back salaries.

XIII. AMERICAN BOARD OF EXAMINERS IN PROFESSIONAL PSYCHOLOGY

A. A report on the financial status and prospects of ABEPP was received with thanks.

B. The Board voted to instruct the President of the APA to communicate with the President of ABEPP, such communication to convey the following points:

1. The Board expresses its appreciation of the very difficult task ABEPP is undertaking and recognizes the significant contribution which ABEPP is making to American psychology.

2. The Board is willing to reconsider at its fall meeting ABEPP's request for a $2,000 grant from the APA for 1954, if it still appears at that time that such a grant is required.

3. The Board looks with concern at the proposed assessment of $3.00 on the APA dues statement of each diplomate, accompanied by penalties for nonpayment.

4. The APA Board suggests that the Board of ABEPP look further into ways of reducing expenses and of organizing the diplomates as a self-supporting and policy-forming body for ABEPP.

XIV. MISCELLANEOUS

A. Secretary for the Committee on Scientific and Professional Ethics and Conduct

The Board voted that, while he is an employee of the APA, Bruce V. Moore serve as Secretary for

the Committee on Scientific and Professional Ethics and Conduct, that he work under the supervision of the Executive Secretary, and that appropriate matters be referred to the legal counsel of the APA.

B. Legal Counsel

The Board voted that the Executive Secretary be empowered to hire such legal counsel for the APA as in his opinion is in the interest of the Association and properly priced.

C. Possible Ways of Collaborating with British Psychological Society

The Board considered a memorandum submitted by Theodore M. Newcomb and referred it to the Committee on International Relations in Psychology, with the recommendation that this committee give attention to a possible program of cooperative activity with psychologists, not only in Great Britain, but also in other foreign countries, such as Japan.

D. Group Insurance for APA Members

The Board voted to authorize the President to appoint, in the name of the Board and after consultation with the Executive Secretary, a committee whose functions shall be to study the problem of group insurance for APA members and to present to the Board in September a report which will lead to definitive action.

E. Funds for Scientific Manpower Commission

The Board voted to approve a contribution of $1,000 from APA funds to the Scientific Manpower Commission.

F. APA Reception

The Board voted to approve the arrangements made for the APA reception held on April 10, 1953, and directed that the charges be paid from APA funds.

G. Policy and Planning Board Study of the Science and Profession of Psychology

The Board received with thanks a report from Kenneth E. Clark concerning the design of Project B of the Policy and Planning Board Study of the Science and Profession of Psychology, the project supported by the National Science Foundation.

There was some discussion of Project A, directed by Sigmund Koch. It was recommended that the President communicate with Dael Wolfle regarding future plans for the submittal of progress reports on Project A to the Board.

H. Tax Deductibility of Fees Paid to Psychologists

The Board received a resolution from the Division of Clinical Psychology of the New York State Psychological Association, pertaining to problems of taxation and tax exemption for psychological services.

It was reported that the Bureau of Internal Revenue has now ruled that fees paid to psychologists for professional services are tax deductible. In the light of this ruling, the problem presented in the above resolution disappears.

I. Standards for Unsupervised Practice of Clinical Psychology

The Board received with thanks a "Statement on Standards for the Unsupervised Practice of Clinical Psychology," which was prepared by the Committee on Private Practice of the Division of Clinical and Abnormal Psychology.

The Board voted that the above statement on standards for the unsupervised practice of clinical psychology be published in the *American Psychologist* after revision by the chairman of the committee, modification of the title, and the addition of an editorial preface indicating that the statement is presented to evoke discussion.

J. Request for Clarification on the Nature of "Professional Experience" in Psychology

The Secretary of the Indiana Psychological Association requested that the Board give some thought to the nature and definition of "experience in psychology," pointing out that the Membership Committee of the State Association has had difficulty in deciding what is and what is not qualifying professional experience.

The Board instructed the Executive Secretary to reply to the Secretary of the Indiana Psychological Association in the light of Board discussion of the nature of professional experience in psychology (cf. Item II-E).

K. Relations with Psychiatry

1. The Board considered the draft of the April "Secretary's Desk," together with other information on recent developments presented by the Executive Secretary, as a basis for extended discussion of the

problems pertaining to the relations of psychology with psychiatry.

2. The Board voted to appoint Nicholas Hobbs, Rensis Likert, Arthur W. Melton, and Fillmore H. Sanford (*ex officio*) as a Committee of the Board on Problems of Interprofessional Relations, the committee being empowered to add other members if it so desires.

3. The Board voted to refer to the Board Committee on Problems of Interprofessional Relations, with its favorable recommendation, a suggestion that psychiatrists might be invited to join with psychologists in sponsoring a sociological study of the relations between the two professions.

4. It was the sense of the Board that it would be desirable to arrange an informal, exploratory meeting between the President and the President-elect of the APA and the President of the American Psychiatric Association. It was noted that such a meeting would be for purposes of communication only, since action can only be taken by the councils of the respective associations.

L. The Walter V. Bingham Lectureship

The Board voted to accept with an expression of thanks the gift of $600 from Mrs. Bingham for a Walter V. Bingham Lecture concerned with "the discovery of the talented." The Board empowered the President to appoint a committee to make this award for the academic year 1953–54. The specific functions of this committee include the selection of an outstanding contributor to this field, who will deliver the lecture, and the selection of a university (not that of the speaker) at which outstanding work in this area is in progress and at which the lecture will be delivered.

M. American Men of Science

Information was presented regarding the financial difficulties reported by the publisher of *American Men of Science,* and the possibility that APA might wish to sponsor the project was considered.

It was the sense of the Board that the publication of *American Men of Science* is the proper concern of the AAAS, since this directory does not deal exclusively with psychologists, but with all scientists.

N. James McKeen Cattell Papers

It was reported that Jacques Cattell has in his possession all of his father's personal correspondence, unpublished manuscripts, and journals, and that these papers could probably be obtained by the APA if there were assurance that they would be properly cared for and turned to useful ends.

Action on this matter was tabled until the Executive Secretary had had further opportunity to explore and consider the problem.

It was the sense of the Board that, in general, if any valuable papers of psychological interest are in danger of being lost, APA can take the responsibility of providing temporary storage for them.

O. References on Legislative Matters

The Board received with thanks a list of references on published articles and reports concerning the general topic of legislation for psychologists, prepared by Jane D. Hildreth.

P. Advisory Committee on Legislative Matters

In response to a request for supplementary funds from the Advisory Committee on Legislative Matters for the purpose of holding a physical meeting, the Board voted to grant this committee an additional sum of $200, making a total of $500.

Q. The Board voted to express to the Central Office staff its gratification for the excellent way in which all arrangements pertaining to the Board meeting were handled.

Respectfully submitted,

ANNE ANASTASI
Recording Secretary

REPORT OF THE TREASURER FOR 1952

To Council of Representatives:

The Association had a total income for the year 1952 of $326,291.89. Expenses were $296,572.57, plus $15,000 which the Council authorized to be set aside for reserve. This left a total net income of $14,719.32. In 1951 the Association ended the year with a deficit of $13,217.26.

The accompanying table gives the figures for 1952 based on the auditor's report.

The budget for 1952 anticipated a deficit. However, certain economies in operation and increases in income, particularly from the sale of single and back issues of journals, resulted in the net income indicated.

Not shown in the table are grants from outside sources, including the U. S. Public Health Service,

the Rockefeller Foundation, and the National Science Foundation. These grants are for specified projects and are shown in the auditor's report under "Reserves for Special Purposes."

The auditor reported the net worth of the Association to be $181,572.87.

Respectfully submitted,

CARROLL L. SHARTLE
Treasurer

1952 APA INCOME AND EXPENSE

Income

DUES:		
Fellows at $16.50	$ 24,580.50	
Associates at $11.50	90,695.00	
Foreign Affiliates at $4.00	324.00	
Division Dues	12,456.50	
Total dues		$128,056.00
SUBSCRIPTIONS:		
Students at $7.50	11,289.00	
Member subscriptions	50,412.00	
Abnormal	$ 6,018.50	
Applied	2,412.50	
Comparative	834.50	
Consulting	4,982.50	
Experimental	2,202.00	
Monographs	1,664.50	
Review	4,442.50	
Abstracts	184.50	
Bulletin	1,654.50	
AJP	816.50	
Club A	25,199.50	
Nonmember Subscriptions	69,513.46	
American Psychologist	4,847.41	
Abnormal	9,220.32	
Applied	9,807.46	
Comparative	3,281.40	
Consulting	5,327.10	
Experimental	11,235.86	
Abstracts	10,534.46	
Bulletin	6,236.00	
Monographs	2,909.05	
Review	6,114.40	
Total subscriptions		131,214.46
OTHER PUBLICATION INCOME:		
Reprints	6,693.03	
Prior and extra publication	11,283.28	
Sale of single back issues	18,682.85	
Monograph authors	4,061.30	
Advertising	10,701.75	
Total other publication		51,422.21
MISCELLANEOUS INCOME:		
Interest on investments	2,772.06	
Addressograph	1,298.73	
Miscellaneous [1]	2,385.95	
Employment Bulletin	1,362.50	
Income from rent	1,125.00	
Annual meeting income	6,654.98	
Total miscellaneous		15,599.22
Total Income		326,291.89

Expenses

PUBLICATION EXPENSE:			
Printing		$148,589.61	
American Psychologist	$28,261.75		
Abnormal [2]	13,064.95		
Applied	7,791.38		
Comparative	7,789.74		
Consulting	8,197.03		
Experimental	14,656.60		
Abstracts	32,471.95		
Bulletin [3]	16,072.18		
Monographs	12,266.05		
Review	7,902.98		
Directory	115.00		
Purchase of AJP subscriptions		3,633.10	
Reprints		7,896.53	
Editorial stipends		5,100.00	
Abstracts office expenses		8,095.21	
Salaries	6,690.14		
Abstractors and translators	373.17		
Supplies and miscellaneous	1,031.90		
APA office expenses charged to publications		47,208.56	
Salaries	39,767.91		
Rent and utilities	1,881.21		
Supplies, postage, and miscellaneous	5,559.44		
Total publication			220,523.01
BOARDS AND COMMITTEES		18,685.17	
Board of Directors	1,608.98		
Board of Editors	661.00		
Relations with Social Work	181.57		
Publications Board	1,345.07		
Relations with Psychiatry	105.99		
Program Committee	317.99		
Scientific and Professional Ethics	49.60		
Policy and Planning Board	2,773.91		
Audio-Visual Aids	88.83		
Conf. State Psychol. Associations	1,500.00		
International Relations	95.57		

[1] Includes back-order fee and prior year dues.
[2] Does *not* include cost of Supplement to Abnormal ($5,715.28).
[3] Includes cost of Supplement to Bulletin ($1,861.11).

Relations with Medical Profession	203.23	
Public Relations	12.00	
Test Standards	1,217.08	
House Committee	——	
Legislative Matters	72.71	
Education and Training Board	7,513.75	
Finance Committee	101.94	
Membership Committee	76.86	
Building Committee	268.21	
Academic Freedom	230.92	
International Congress	215.85	
Counselor Training Program	44.11	
Less amount expended in 1951 [4]		— 3,266.39
Plus amount expended on 1953 budget [4]		+ 1,851.29
GENERAL APA ACTIVITIES:		
Bad debt expense		869.37
Dues paid to divisions		5,069.39
Recording Secretary		400.00
Annual Meeting [5]		6,954.83
Annual election		1,912.29
Professional service and insurance		2,633.08
Central Office (nonpublication)		35,659.97
Salaries	28,347.21	
Rent and utilities	1,881.21	
Supplies, postage, telephone, miscellaneous	5,431.55	
Travel, Executive Secretary and Central Office		1,342.92
Memberships and contributions		617.48
Distribution of Ethical Standards		449.52
Public relations		849.20
Employment Bulletin		532.83
BUILDING EXPENSE		1,488.61
Taxes	874.02	
Supplies and miscellaneous	279.43	
Utilities	276.85	
Depreciation (furniture and fixtures)	58.31	
Total nonpublication		$ 76,049.56
Total Expense		296,572.57
Total Income		326,291.89
Reserve		15,000.00
Total Net Income		$ 14,719.32

[4] These figures represent amount expended in 1951 applied to 1952 committees and amounts expended in 1952 applying to 1953 committees.

[5] Gross expense of meeting; net expense of the meeting was $299.85.

ANNUAL REPORT OF THE POLICY AND PLANNING BOARD OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION: 1953

POLICY AND PLANNING BOARD

THE Policy and Planning Board met twice since the preparation of the last Annual Report (*Amer. Psychologist,* 1952, 7, 563–568); once on September 3, during the APA meetings in Washington, and again on June 5–6 at the APA headquarters in Washington.

ACTION UPON REQUESTS FROM THE BOARD OF DIRECTORS AND OTHER APA BOARDS

The Board of Directors referred several problems to the Policy and Planning Board. The first task was "to study division bylaws, with a view to assisting divisions in achieving desirable uniformity in terminology and policies." A second request was for suggestions as to ways of improving present arrangements for transferral of Associates or Fellows to Life Membership. Deficiencies in the current method were discussed by Edwin G. Boring in the *American Psychologist* for February, 1953.

The chairman of the Policy and Planning Board has prepared an analysis showing the major differences and similarities in the bylaws of the several divisions. Employing this analysis as a basis, the Board will formulate such recommendations for revision as seem desirable.

With respect to problems of Life Membership, the following recommendation was transmitted to the Board of Directors: (*a*) that the Central Office be instructed to send to APA members, when they become eligible according to the bylaws, an invitation to become Life Members; (*b*) that Division 20 be requested to appoint a committee to study the problems involved and communicate to the Policy and Planning Board such recommendations as may be agreed upon concerning Life Membership in the Association.

Earlier in the year the Publications Board had asked for advice concerning methods of electing editors for APA journals. The Board recommended to the Board of Directors that editors be elected by the Board of Directors from a slate presented by the Publications Board. It was the consensus that if such a procedure necessitates a change in the Association bylaws, the change should be made.

In connection with a discussion of ways and means to help editors improve the standards and methods of evaluating manuscripts submitted for publication, it was agreed to suggest to the Publications Board that authors be required to submit two copies of all manuscripts and that the author's name be omitted from these copies. It was the belief of the Policy and Planning Board that this provision would assist an editor to obtain the opinions of two associate editors, or other critics, simultaneously, and that such action would provide for broader criticism and perhaps more efficient selection of articles.

ACTION UPON A PETITION FROM THE COUNCIL OF STATE PSYCHOLOGICAL ASSOCIATIONS

The Board considered a current petition advocating that the APA bylaws be amended so that the chairman of the Council of State Psychological Associations would automatically become a member of the Board of Directors of the APA. It was decided that the following statement by the Policy and Planning Board should be distributed to all Council members with the request that copies be mailed to all members with the ballot.

The Policy and Planning Board has reviewed the amendment submitted by petition and respectfully recommends its rejection by the membership. It is to be noted that a similar proposal has been made several times before and has been rejected each time by the cognizant committee of the APA. The Board's objection to the proposal rests on three points:

1. In view of the administrative and policy functions of the Board of Directors it is essential that it be elected with integrity and wisdom as representative of all psychology—and that no part of American psychology be automatically assured a voice on *ex officio* grounds.

2. Through many of its committees, boards, and Central Office functions, the APA is currently involved in and aware of state problems. There is no compelling evidence that direct representation on the Board of Directors will add to this concern.

3. The problems of integration and development of the state societies will be under consideration during 1953–54 in the five-year review required by the APA bylaws as a function of the Policy and Planning Board. Any fundamental changes in the role of the Conference of State Psychological Associations should, therefore, be considered in the course of this review.

In order that problems of relationship of the APA to the state associations might be fully explored, the Board transmitted the following statement and request to the chairman of the Council of State Psychological Associations.

During the next year the Policy and Planning Board will undertake its five-year review of the structure and function of the American Psychological Association. In 1955 it is obligated to report its recommendations concerning proposed changes in bylaws to the association membership.

The attention of the Conference of State Psychological Associations is called to the need for a careful study of the following topics, all germane to the work of the Conference.

1. The functions, structure, and operating problems of the Conference itself.

2. The problems of proper and effective representation of the interests of the state associations in the national association.

3. Developments in the relationships of state associations to the American Psychological Association, with reference to the association-wide committees and boards and the Central Office administration, especially vis-à-vis such matters as legislation and association-operated certification, membership standards, creation of improved employment opportunities, educational and training standards and facilities, and ethical and professional standards.

The Policy and Planning Board requests that the Conference undertake this study during late 1953 and 1954. In order that the study may be effectively coordinated with others, the Policy and Planning Board suggests that a small committee of the Conference be appointed to meet from time to time with a subcommittee of the Policy and Planning Board.

PROBLEMS OF DIVISIONAL AUTONOMY

During the year the Board of Directors took several actions resulting in increased autonomy for the divisions of the APA. The Policy and Planning Board approves in principle of granting as much independence as possible to every division but considers it desirable to emphasize the fact that divisions should not act in complete independence of the national organization in matters which could have direct or indirect effects upon the APA as a whole or upon other divisions.

For example, several important problems are raised when a division seeks outside funds for special purposes. Some of the problems are of a legal nature. Some foundations are bound by law to make grants exclusively to tax-exempt organizations and APA divisions do not qualify as such. As now constituted they are not suited for assumption and discharge of contractual obligations of the type normally involved in grants in aid from the government or from private foundations. Frequent changes in the personnel responsible for management of divisional affairs could easily interfere with efficient administration of a grant. The central administration provides the appropriate and necessary mechanisms for the essential coordination of the activities of the several divisions. Independent divisional action in relation to the general public or to other organizations or institutions should be preceded by consultation with the Executive Secretary and, in certain cases, by approval of the Board of Directors.

SURVEY OF PSYCHOLOGY AS A SCIENCE AND A PROFESSION

The Board's Annual Report for 1952 reviewed in detail the plans for a survey of the scientific and professional status of psychology, and announced the selection of Sigmund Koch and Kenneth E. Clark to serve as project directors. In the same report it was noted that Dael Wolfle had agreed to act as chairman of a central planning committee which would advise and assist the project directors. At the June meeting of the Board, Dr. Wolfle described the current status of both projects. Satisfactory progress is being made on both projects, but it is too early for any report of findings.

JOHN G. DARLEY
JOHN C. EBERHART
HAROLD SEASHORE
FRANK A. BEACH, *Chairman*
JOHN W. GARDNER
QUINN MCNEMAR
DOROTHY C. ADKINS
HARRY F. HARLOW
DAEL WOLFLE

REPORT OF THE COMMITTEE ON PUBLIC RELATIONS 1952-1953[1]

APA COMMITTEE ON PUBLIC RELATIONS

RATIONALE AND GENERAL PRINCIPLES

MANY psychologists are coming to believe that both organized and individual psychologists must invest more effort in the attempt to tell the general public what psychology is and is not, what psychologists do and do not do. Few psychologists, however, have actually engaged in any activity designed to increase the breadth and accuracy of the public understanding of psychology. The efforts of the national organization have been of a minimal and passive sort.

Psychologists appear subject to a paralyzing conflict concerning public information activities. We believe in education, we believe an informed public is essential to democracy, we believe psychology has a great deal to offer society. We believe, on good evidence, that psychology is inaccurately perceived by the public, and we believe such misperception is harmful both to the public and to psychology. We believe that public misperceptions of psychology result in our being asked to do things we cannot do and, just as frequently, in our being denied opportunities to do—or try to do—things we think we can do. We believe that any science or profession will maintain a healthy long-term relation with its supporting society only if the society knows fully what it is supporting. We believe all these things. But we have done little or nothing to initiate active public information programs.

It is a good hypothesis that our own institutionalized and perhaps maladaptive modesty has prevented our engaging in active public information programs. We have a strong antipathy to anyone who blows his own horn. The true academician does not of his own volition appear in the press or on the radio, and only with great and modest hesitation if the pressure comes from outside. The true academician wants society to see him as a useful member of the community, and he has no great fondness for a society that does not so see him. He wants to be seen and accepted as he is. He resents inaccuracies in the public's perception, but his resentment is not sufficient to make him communicate his own ideas to the public or to make him approve the efforts of those of his colleagues who try it.

There is good and solid reason to believe that psychologists must overcome some of their inhibitions about "publicity" or they will fail to live up fully to their responsibility to society and will not be given a continuing opportunity to make their scientific and professional contributions to human welfare. Diffidence is good and modesty is a virtue, but to remain passive in the face of public misperception of psychology may be both neurotic and irresponsible. A strong case can be made that psychologists have a clear social responsibility to inform the public about the field of psychology and its inhabitants.

Any psychologist who shares with the educator the belief that dissemination of knowledge is good, who believes that psychology as science or service has something to give our culture, and who has a faith in the long-term wisdom of an informed public in a democratic society, has some responsibility to communicate to the public. The public must have good evidence on which to make both its short- and long-term decisions about psychology. The implementation of this responsibility is an intricate and potentially conflicting thing. The individual psychologist may wish to delegate this responsibility, perhaps to his professional organization. Many individual psychologists will need assurance that public information efforts are in line with good moral principles and good taste. But such intricacies of implementation become clinical or administrative, once the responsibility is accepted.

The present Committee on Public Relations is recommending that the APA engage in a gradually expanding public information program. This report will present an account of recent and proposed

[1] At the Cleveland meetings the Council of Representatives voted to receive this report with thanks and commendation, and to order it published. The Board of Directors encouraged the Committee to go ahead, but carefully, with its proposal for observer panels, and the Council voted a 1953–54 budget of $10,000 for the APA public information program.—Ed.

APA activities in the field of public information or relations and will show the extent and cost of possible expanded programs. But first it seems desirable to state a general principle that can guide any program APA may adopt in this area and to specify certain items of strategy that seem desirable in implementing a program.

A Guiding Principle

In accepting the social responsibility to engage in public information activities, psychologists must aim only at an increased accuracy of the public perception of psychology.

In a democratic society the best any special group can hope for is that decisions directly affecting the group be made on the basis of an accurate view. The special group that attempts to create a falsely favorable public image is engaging in a self-aggrandizing attempt to use rather than contribute to society. Such a group can justify its propaganda only on the basis of a belief that its contribution is so great that any means is justified if it increases the group's opportunity to achieve its own goals. Such beliefs are often in the realm of delusion, denying much of both science and democracy. Psychologists, if they are to steer a mature course between a failure to inform the public on the one hand and a failure to maintain a good conscience on the other, must engage in programs of *public information* rather than in programs of deliberate public relations, designed to win favorable support by propagandistic means.

In aiming at accuracy of perception, we must remain in touch with reality. We cannot hope that everyone will understand everything about psychology. We cannot hope that every newspaper story or radio program will communicate everything, even about a narrow topic, to every reader or listener. We can only hope that over a period of time more people will understand more accurately what psychology is about and what the psychologist can do. When more people—particularly more decision-making people—have a clear view of psychology and psychologists, social and financial support for the activities of psychologists will be healthily based on reality and knowledge rather than stereotype and ignorance.

Principles of Strategy

1. *A good public information program is aimed at the long-term aspects of the mutually rewarding relationship between a specialty and society.* Short-term attempts to build favorable public images of a specialty may not only insult the principle of accuracy, stated above, but run the risk of reflecting adversely on the specialty. In a society characterized by the free exchange of information, myths do not last long, whether they be of dictators or of race or of a science or of a profession. Deliberate attempts to perpetrate myths may win a doubtful short-term gain for the perpetrator, but can be counted on to lose long-term support. Acceptance based on false perceptions is often transformed into highly charged rejection.

2. *A good public information program is a highly participant program.* Many psychologists must participate.

As Chester Barnard emphasized in his study of communications, "The Function of the Executive," the daily decisions and actions of phone operators are far more important to the telephone company than any decisions made by the Board of Directors. The public relations offices of the Bell system do their most important work in their internal education program designed to assist the real job of public relations done by their operators.

The various publics with whom we deal and the public at large ultimately will form their concepts of psychologists from the persons in the profession with whom they come directly in contact. Therefore, we feel the most important public relations decision of the committee and the Board in the past has been to plan for a long-range program designed to advance the central idea that individual psychologists must recognize that their social obligations include some measure of public education.

3. *An effective public information program is aimed in good measure at opinion-makers and decision-makers in the public at large.* It is both easier and more fruitful to communicate to effective communicators. For example, members of Congress, woefully uninformed about psychology, can with relative ease and relatively great effectiveness be given accurate information about psychology.

Philosophically, it is true that the role of psychology in society will be determined by the public as a whole. What voters in the mass think of psychologists is involved to some extent when appropriations for Air Force research are being considered by Congressional committees, and when licensing bills are before legislatures. Imagine what it

would mean to us if psychologists did not enjoy the general approval or tolerance which they do; if the voters, and hence the legislative committees, looked on us as some kind of chiropractors of the brain. This comparison is not chosen lightly, but to point up the fact that those few prejudiced persons who do so think of us are tilting with firmly entrenched, approved images in the public mind.

But as a practical matter, psychologists, even those appearing before a legislative committee, are seldom likely to be concerned with the opinion or concepts of the general public. In any case we would never wish to follow the disastrous examples of some groups in our society which have endeavored through mass advertising to secure positive endorsement from the public at large.

RECOMMENDATIONS

It must be evident that the major shift which has occurred in the committee's thinking is best reflected in the feeling that the time has come for increased experimentation with regard to media, content, and techniques. No question is raised concerning the soundness of the wish of previous committees to examine such basic problems as the identification of the relevant publics, the determination of the nature of our profession's public relations problems within these publics, and the formulation of a statement of the outcomes to be desired from a public information program. Indeed, the Board of Directors might be reminded that much has been accomplished along these lines, particularly by the committees of 1948–1949 and 1949–1950. A large number of publics (perhaps too large) have been identified and a general agreement reached concerning the desired outcome —"an improved understanding on the part of relevant publics of what psychology is about, what psychologists do, their skills, standards and potential contributions."

On the other hand, it is believed that we can too easily fall into the safe, secure, and pleasant condition of regarding our public information problems as defining an area of scientific inquiry rather than of professional action. If it is true that, as psychologists, we should be able to approach such problems with enhanced insight and sophistication, it may be equally true that too much of the "Physician, heal thyself" viewpoint may inhibit us from actually accomplishing anything.

The past action of the Board of Directors in appointing a Public Information Officer may be interpreted as an expression of approval of the initiation of what might be called action research in this area. Your committee has chosen so to interpret it and has attempted, in collaboration with the staff, to suggest specific trial-run projects. The criteria against which to evaluate the results of such tryouts remain undefined and nebulous. Perhaps for some time in the future they will consist almost entirely of administrative feasibility, expense, and the informal reactions of psychologists, public relations experts, and very unrepresentative samples of various publics. If this is an unfortunate state of affairs, it is not a unique one. If we had always waited for adequate criteria, the APA would be considerably smaller. The suggestions for specific trial runs discussed by your committee and recommended, in principle, follow:

1. *Informing our membership.* It is believed that an attempt should be made to enlist not only the support and interest of the APA membership in the attempt to produce a better public understanding of psychology, but also to produce a greater awareness in our membership of the impact which governmental and institutional atmosphere and actions may exert on psychologists as groups or individuals. The committee members have no desire to create support for a psychological lobby or pressure group. They do believe that psychologists have the same right as other citizens to be informed, even when the information concerns matters of self-interest.

The committee, therefore, recommends that the staff be encouraged to disseminate (periodically or sporadically) a newsletter to the membership. This newsletter should be strictly informational in nature with a minimum of editorial comment. It should attempt to give full descriptions of actions, pronouncements, or situations involving the support, prestige, and rights of scientists in general and of psychologists in particular. It should not avoid areas of political or social controversy. Nor should it omit mention of what the psychologist may do as a citizen in attempting to sway legislative or institutional opinion in a direction desired by him. The report "Science and Government in this Economy Year" in the June *American Psychologist* is regarded as an excellent example of what should be done in this area.

2. *Defensive public relations.* The 1951–1952 committee expressed an interest in "defensive public relations" against some rather frequent misinformation and injurious materials now appearing in many of the mass media. The effect of such material is admittedly imponderable, but the present committee agrees that it is likely to be very great. We may be happier in the thought that most of our relevant publics (including those made up of our own members) are best reached through channels of a higher level than the columns of daily newspapers, radio and television programs, or popular magazines. However, it would be easy to underestimate the impact of the psychological Walter Winchells, Mr. Anthonys, and Lil Abners on even the most intelligent and best educated portions of our population.

The solution suggested by last year's committee was the formation of a number of "monitoring committees to undertake the responsibility of reading regularly all the output of any specialized or general medium which had a large content of psychology." Recognizing the potential dangers in such a program, the committee remarked that "Such monitoring committees would have to move cautiously in expanding their role beyond that of keeping the APA informed. There would be the danger that journalists would see our efforts as an attempt at censorship. The voluntary and advisory aspects of any direct contacts with editors would have to be underscored."

The Board of Directors did not react with enthusiasm to this idea so that the present committee has not attempted progress along these lines. Perhaps the Board would like to reconsider on the basis that we do need more information on the amount and kind of material which is being provided the public and that this could be obtained through "reading" committees which could be enjoined from any direct official contact with editors or writers. An aid to the Board in its consideration of this problem should come from George Albee's report on his study of a large number of press clippings on psychological topics.

3. *Competitive public relations.* In any case, your committee feels that a more positive approach should also be considered. It seems probable that the best way to counteract the effect of undesirable columns in the newspapers, for example, is to produce desirable columns which can win the readership of the public on their own merits. In short, we suggest a shift from the defensive approach to this problem to a competitive one.

It is very probable that many of the members of the APA could (if they would) write a few columns on psychological problems which would be both sound and entertaining. Regarded either as antidotes or as competitors, such accounts of what problems psychologists are attacking and how, should be of great value. If they are good enough, they might even supersede most of the material currently being produced. For example, if we could gather 52 such articles from our membership, we might well be able to interest a syndicate in running them. Not the least attractive aspect of this idea is that it should be self-supporting and might eventually show a profit.

The staff has explored this possibility by asking some 60 psychologists if they would prepare such a column. The requests went out only this June but the returns have been encouraging in terms of promises, and a respectable number of good quality products are already at hand. Your committee recommends that this preliminary work be followed up, at least until the idea is demonstrated to be unfeasible.

4. *Helping psychologists "inform and relate."* The staff has prepared and is now revising a manual designed to assist psychology departments in obtaining more and better coverage of their activities in the standard media. Revision will be based on the comments of a broad sample of psychologists, public relations officers in universities, and others. The committee recommends that the final product be widely distributed.

The manual is designed to sketch the specific means by which psychologists can act locally on this program, but far more important than this or any other specific step is the policy of fostering a better understanding of legitimate cooperation with local groups, and local university and agency public relations offices.

In the incipient (or continuing) differences with psychiatrists, and particularly when one considers legislative situations, it can readily be seen that local associations and individuals must take active steps to be friendly and explain themselves to local groups and local opinion-makers.

Under consideration is the selection of a "test state," in which the local association would be asked to undertake a positive program of building communications bridges with local groups, so that from

practical experience we might prepare a handbook for all local associations on the subject of preventive public relations aimed at the specific question of medical and legislative relations.

5. *Describing psychology and psychologists.* In accordance with the recommendation of last year's committee, the staff has prepared a first draft of a brochure, tentatively entitled "Questions and Answers about Psychology and Psychologists," aimed at a potential public ranging from state legislatures to high school seniors and designed to be a permanent supply item for the armory at Sixteenth Street. The wide dissemination of the finished product is also recommended.

6. *Press releases from headquarters.* The staff has continued its efforts in the area of press releases on a year-round basis. Your committee feels that this work has been of excellent quality and should receive continued support. The success of this venture has led the committee to consider the possibility of exploratory work on what might be achieved in the radio and TV field. This could be done at the local level in Washington. We recommend that the staff be encouraged to make some tentative excursions into this area.

7. *Press releases from local and regional meetings.* The staff has also done considerable work on the problem of press releases for papers delivered at various psychological meetings. The results have been encouraging both with respect to the products appearing in the press and to the receptivity of press representatives. We believe that these activities should be expanded where possible and that further efforts should be made to apprise local or regional psychological groups of the help which the APA staff can give.

8. *Use of the annual meeting in public relations.* The committee has encouraged the staff to expand its activities with relation to the Annual Meeting. It believes that the attempt to obtain and disseminate "home-town" releases on those participating in the meetings is of especial value. The staff also planned a public meeting for the Cleveland convention. This comprised one of the first concerted efforts to present the right kind of speakers, talking about a right kind of topic to the right kind of people. In the general spirit of the committee's thinking, this was conceived of as a test run. We can only recommend that this experience be examined carefully in determining future plans.

TABLE 1

SUGGESTIONS FOR ALTERNATE BUDGETS FOR PUBLIC RELATIONS PROGRAMS

Item	*Amount*	*Total*
Minimum—passive program, as in 1951		
Psychologist, one-third time	$ 2,000	
Secretary, one-third time	1,000	
Total		$ 3,000
Exploratory—continuing as in 1952–53		
Psychologist, one-third time	2,000	
Consultant, one-fourth time	2,500	
Secretary, one-half time (as in 1952–53)	1,500	
Total		5,500
Moderately active—as begun in summer, 1953		
Psychologist, half time	4,000	
Consultant and writer, half time	5,000	
Secretary, full time	3,000	
Travel and expenses	1,000	
Total		13,000
Active		
Psychologist, half time	8,000	
Writer, public relations man, full time	8,000 to 10,500	
Secretary, full time	3,000	
Printing, publications	3,000	
Travel, telephone	2,500	
Total		22,500 to 25,000

9. *Surveying the public.* A very considerable proportion of the work of the committees of recent years has gone to the design and preparation of a structured interview schedule and a manual of instructions to be used in a project of surveying public opinion through the coordination of classroom surveys throughout the nation.

Funds were requested to continue this work by the 1951–1952 committee but (we understand) were not granted because of the possibility that something roughly equivalent might develop within the National Science Foundation. This has not occurred. However, in the meantime, the submission of the preliminary survey schedule form to members of the committee resulted in some basic criticisms and expressions of discontent. Some members felt that the schedule emphasized one area of psychology to such a degree that it might not only distort the responses obtained in the interviews but actually change the way respondents subsequently

perceived psychology and psychologists. Work on the project was discontinued at this point.

We suggest that the problem implied transcends any specific project in which we might engage. Clearly, there are considerable differences in the ways in which psychologists perceive psychology and each other. This means that, whatever is done, some people will be unhappy with the whats and hows of our attempts at any particular time. Your committee does not feel that the solution to this problem is imminent. But we do feel that work must be done in spite of the problem, even if it produces some intrafamilial spats (and it no doubt will). The spats can be resolved and the inevitable sulks removed over a period of time. For the protection of the Public Relations Committee and the staff, however, we feel that the various psychological clusters should be more adequately represented on the committee.

No specific recommendation is made concerning the survey in question. We believe that this project should be re-examined by a new and more representative committee. However, we do not believe that it merits as high a priority as most of the items discussed above.

10. *Budget.* The Board of Directors requested the committee to prepare and submit a budget for the implementation of its recommendations. Characteristically, the committee has passed this buck to the staff which must necessarily provide the real implementation. The staff members know better than the committee what their other commitments are, how much work they can hope to invest in a public information program, and how much expense will be entailed.

Four alternate budgets are presented in Table 1. While recognizing that the selection of one of these budgets can be made only in relation to the Board's top-level policy decision, your committee strongly recommends that the choice be limited to budgets 3 and 4. This appears to be no time for a backward step.

Respectfully submitted,

JOHN W. MACMILLAN
GLEN FINCH
S. RAINS WALLACE, JR., *Chairman*

REPORT OF THE COMMITTEE ON A DIRECTORY OF PSYCHOLOGICAL SERVICE CENTERS[1]

APA COMMITTEE ON A DIRECTORY OF PSYCHOLOGICAL SERVICE CENTERS

THE Committee on a Directory of Psychological Service Centers was appointed after the APA meeting of September, 1952 to carry forward recommendations made by a similarly named *ad hoc* committee that reported at the 1952 meetings. The report of the committee activities for the year ending September, 1953 is submitted to the Council herewith.

We considered that our main task was to establish the groundwork and the general plan by which the contemplated directory could be published. It was not our responsibility or mandate to take action leading to publication until our recommendations and findings could be approved by the Association.

1. We now recommend that a separately incorporated board be created to serve as the directory board. To this end, we have drawn up possible articles of incorporation and bylaws in appropriate legal form.

It appears to us wise that this first board be elected by Council upon nomination by the APA Board of Directors.

The suggestion has been made that the functions contemplated for this board be assumed by ABEPP. A decision on this matter is not within the province of our committee, but it is a possible course of action which the APA Board of Directors may wish to consider in conference with ABEPP.

2. We suggest that the new directory board consider seriously the criteria, recommendations, and findings of our committee, which are discussed below and which appear in greater detail in the committee files.

3. We respectfully request the discharge of the present committee at the conclusion of the 1953 meetings.

In support of the above recommendations and suggestions the year's work is summarized under appropriate headings.

RELATIONS WITH STATE SOCIETIES

The chairman of the committee met on November 15 with the Executive Committee of the Conference of State Psychological Associations in an effort to gain approval in principle of the directory plan by the various state societies. The favorable action of the Conference of State Psychological Associations appears in the minutes of the meeting of its executive committee, dated November 15.

On the basis of this action, the committee addressed a letter to each state association in February, 1953, describing the outline of our general plan and asking the cooperation of each state organization in carrying a responsible part of the total task.

As of the date of preparation of this report, 18 replies had been received from the 38 to 40 state societies to which letters were addressed. While these replies were generally favorable to the plans for the preparation of a directory, it is understandable that the state societies will need more details and more instructions before fulfilling their role in the task. It is also apparent that the resources available within the various states show considerable variation; this point bears on the problem of the extent to which state societies can carry some of the costs of inspection trips and special visits.

REVIEW OF THE LITERATURE

With the cooperation of the APA Central Office, the committee has reviewed many directories published by states, by organizations, or by special groups. Great variation exists in these directories with respect to both standards of listing and form of listing. It was obvious to the committee that the directory contemplated by the APA should maintain somewhat higher standards than the av-

[1] At its Cleveland meeting, the Council of Representatives voted to follow the recommendations contained in the present report. A new committee, with Nathan Kohn, Jr. as chairman, was instructed to proceed with the creation of a separately incorporated board that will, with initial APA support, produce a Directory of Psychological Service Centers. In a way, then, history has moved faster than publication, and the report is already out of date. The Council, however, ordered the report printed so that APA members can be informed of probable procedures to be followed by the new committee and the subsequent board.—Ed.

erage found in the various directories reviewed, and should state far more clearly the criteria for inclusion and the review procedures used.

AGENCIES AND INDIVIDUALS FOR POSSIBLE INCLUSION IN THE DIRECTORY

An analysis of the 1951 APA Directory to identify agencies having at least one PhD on their staffs revealed 629 agencies whose staffs include a PhD with 3 years of experience and 497 agencies whose staffs include a PhD with 5 years of experience. This count excludes federally supported agencies. The tabulation may be inaccurate for any one or a combination of the following reasons: there may be inconsistencies in the listing of agency names; the PhD's involved may not have their degrees in fields appropriate to the work of the agencies; there may have been changes in the population and staffing since the publication of the directory; some of the agencies included may not be of the type which a directory board could legitimately include in a directory of psychological services. It is to be noted, also, that an attempt was made in this census to exclude industrial consultation agencies. File cards for mailing use have been set up for this group of agencies.

A second count indicated that 658 persons list themselves in the directory as engaging in private practice in areas other than industrial psychology. Of this number, 166 (25%) hold the ABEPP diploma in either counseling or clinical psychology; 253 (38%) hold the PhD or the EdD but not the ABEPP diploma; 239 (36%) hold neither the ABEPP diploma nor a doctoral degree. The final decision regarding listings of private practitioners is a major policy matter. This committee has not tried to reach a decision on the issue.

In separate correspondence with the United States Public Health Service and the Veterans Administration, it developed that federal agencies cannot under their laws and regulations pay for a listing in any contemplated directory. Yet the number of psychological service centers maintained by the federal government is sufficiently great that they cannot be ignored in a directory that purports to inform the consumer fairly and accurately. *The American Psychologist* [2] reports a total of 89 VA centers employing clinical psychologists. The VA Division of Vocational Rehabilitation and Education reports 10 to 11 VA offices offering guidance services with qualified PhD's on the staff; in addition this division maintains a large number of contract centers where qualified personnel may be found. The United States Public Health Service reports 12 field stations staffed with PhD's having 3 years or more of experience and of these 12, 9 employ PhD's having 5 years or more of experience.

It is obvious to the committee that agencies such as this, supported by the federal government and staffed in the main with qualified personnel, should be included in the directory, even though no way exists to collect listing fees from such agencies.

The above information permits some approximate determination of fees to be charged for original listing, annual renewal, and other income needs that the new board will have to face. This committee has not attempted to cast these data into definitive fiscal policies.

LEGAL ASPECTS OF THE NEW BOARD

As was indicated above, we have drafted articles of incorporation and bylaws modeled after those of ABEPP for consideration and possible use by our successor committee.

CRITERIA AND PROCEDURES FOR DIRECTORY PREPARATION

This problem comprised the main emphasis of the committee's physical meeting held in January, 1953. The outcomes of our discussion are presented below.

Tentative Criteria

1. The ranking psychologist in an agency shall be a member of APA, hold a PhD degree, and present a minimum of either 3 or 5 years of appropriate experience since receiving the PhD degree.

2. For a period not to exceed two years after incorporation of a board, members of the APA holding the MA degree and presenting 10 years of qualifying experience may present their agency for inclusion in the directory if they are the ranking psychologist in the agency.

3. The agency to be listed must be judged to conform to the present ethical and professional codes of the APA, in so far as the psychological aspects of the agency's work are concerned.

[2] Psychological Notes and News. *Amer. Psychologist*, 1953, 8, 98–101.

4. There must be evidence of congruence between the services which the agency claims to render and the services actually rendered.

5. The agency must be viewed as professionally adequate in the community in which it exists, and there must be evidence that its services are professionally accepted. As a consequence of this criterion, no agency should be permitted to apply until evidence can be furnished, by endorsement from colleagues in and out of psychology, that the professional community is informed of the claimed services.

6. The agency must indicate its willingness to provide any required information, to pay such fees as may be required, and to act as host to such observers or investigating teams as will be assigned to the inspection task.

7. In the case of individuals in private practice the above criterion shall apply with the exception that an individual in private practice must be a diplomate in Clinical Psychology or in Counseling and Guidance and in good standing relative to that diplomate.

Procedures for Application and Review

1. The agency or the individual must voluntarily initiate a request for inclusion in the directory.

2. If this preliminary request meets the minimal standards outlined above, the agency or individual will be invited to make formal application, and at this time the application fee will be required.

3. The formal application is to be made by the administrative director of the agency if he is a psychologist or jointly by the ranking psychologist and the director if the latter is not a psychologist.

4. The evaluative process will require that the agency file, in writing, information on the following points:

a. Staff: qualifications; number of professional; number of nonprofessional; level of function
b. Function of the psychologist(s): full professional utilization; status in agency
c. Sponsorship (financing)
d. Purpose (claimed services)
e. Fees and fee policy
f. Clients (referral system)
g. Physical facilities
h. Consultation facilities and communication lines in the community
i. Description of service process: intake and casework; procedures
j. Previous comparable certification
k. Records: confidentiality; clearance; availability

5. After the above information is received in writing, an investigating team shall be assigned for the following purposes: to validate the information which the agency or individual has submitted to the board; to make a judgment concerning the degree to which the agency or individual conforms to the ethical and professional codes of the APA; and to submit such additional evidence of an evaluative nature as the team members feel necessary. (We should point out here that our committee had some area of disagreement regarding the extent to which the team of observers or investigators should validate, on the one hand, or evaluate on the other hand.)

6. It shall be the responsibility of the board, and not the team, to reach a full decision as to the inclusion of the agency or the individual in the contemplated directory.

7. There shall be incorporated into the bylaws of the board a provision for appeal machinery; in the case of an unfavorable decision by the board the agency or the individual shall have an explicit right of appeal, with the appeal submitted in writing and with the possibility that the appeal may involve additional cost to the individual or agency. In this appeal procedure it is essential to make clear that the appeal cannot be taken from the standards of the board, but can only be taken under a claim of incorrect evaluation or incorrect information.

The Role of State Societies

1. The state societies will nominate panels of investigators or observers at the request of the board.

2. Necessary expenses of these observers while in the field will be defrayed by the state society so far as possible.

3. State societies should present, in advance of particular field trips, an estimate of expense which they are unable to defray.

4. In those states where no state society exists or in special circumstances, the board shall make such arrangements for teams of observers as it deems necessary.

5. The duties of the investigating team have already been outlined.

6. The state society should be asked to accept the following criteria for their nominations of panels:

a. No member of the investigating or observing team shall have been, or shall be, a member of the agency being investigated.

b. Investigating or observing team members should be either diplomates of the American Board of Examiners or Fellows of the APA.

c. The investigating team members should not be employed by the same sponsoring organization under which the agency operates, even though such employment may be in a different branch of the given administrative structure.

d. The team members should have some interest in and experience with the areas of professional services represented by the agencies which they study.

The Structure of the Board

1. It should number not more than five members.

2. It should plan a series of meetings not to exceed two a year.

3. It should retain a connection with the APA by a replacement nomination process similar to that of the American Board of Examiners.

4. It has sole responsibility for making decisions regarding directory inclusion.

5. It will probably be necessary for the APA to advance such a board the sum of money required for the initial period of operation. However, the application fee and the periodic renewal or listing fee should be so scaled as to permit the board to be self-supporting, and it should further design its affairs so that income from sales of directories will not only balance production costs but will also be a source of support for board activities.

Information to be Contained in Directory Citations

1. Services rendered
2. Sponsorship
3. Fee policy
4. Staff (number, training and institution of all staff members doing professional work)
5. Previous comparable certification
6. The professional relationships of the agency
7. Availability (hours of operation)
8. Director (name, qualifications)
9. Ranking psychologist (name, qualifications)
10. Referral system

In order to make sure that these criteria and procedures are moderately realistic, the committee prepared schedules for agency use and for use of inspection teams. Members of the committee have agreed to try out the schedules on agencies in their own geographic areas on an informal basis. As a result of this informal field test, criticisms and revisions of the schedules will be submitted for the consideration of our successor committee. The field trials are now in process and will be completed during the summer.

Respectfully submitted,

JERRY W. CARTER, JR.
NATHAN KOHN, JR.
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CLARE W. THOMPSON
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PROFESSIONAL LIABILITY OF PSYCHOLOGISTS[1]

JOHN ALAN APPLEMAN

OF necessity, it is confusing to persons not intimately acquainted with the trial of negligence, tort, and contract suits to evaluate their impact upon their personal and professional lives, and also to attempt to determine the desirability of insuring against ordinary hazards which may arise from professional activities. One must realize that in everything he does he may perform some act which another considers damaging to him. One may drive an automobile and have an accident; he may swing lustily at a golf ball and slice it into the next fairway, striking another golfer or a caddy; a child's scooter may block the sidewalk at night, causing someone to trip over it. These are ordinary hazards of living, against which insurance may be procured easily and at comparatively minor cost. This is because such hazards are common ones, with a wealth of actuarial experience to determine what the loss ratio will be. Most of us carry insurance against such hazards. The cautious man always does.

The problem of professional liability has not been as clearly defined, yet the hazards arising therefrom are of at least equal importance. I prefer the term "professional liability" to "malpractice." The latter has an unpleasant connotation, one which denotes improper practices upon the part of the professional man. Yet, liability may be asserted in many instances where there has been no malpractice, and it must be recognized that such claims are one of the hazards of conducting a profession, equally with the payment of salaries, utility bills, income taxes, and the like.

No man can undertake a professional relationship of any type with another without subjecting himself to such a hazard. The potential liability may arise in many ways. If a physician, for example, uses equipment of any type, there is the ever-present possibility of personal injury resulting to the patient. The use of sedatives, whether in a mild form or in deep narcosis, could easily produce a wholly unexpected result, if one encountered a patient with an idiosyncrasy to the drugs employed or with some systemic disorder which might cause an unfavorable reaction. The mere giving of consultation may be claimed to have produced damage to the individual, particularly if the advice given is distorted when related from the witness stand. It may be that a consultant desires to confer with others familiar with the client in order to make an accurate diagnosis of the case, and it may well be claimed that such actions constitute an invasion on the right of privacy of such individual, or even that statements made by the consultant were slanderous in character.

It must be recognized that a psychologist frequently deals with persons having certain mental aberrations. Possible liabilities are more likely to occur where mental abnormalities exist than in the instance of a normal patient. To illustrate, a suit was brought against a physician for alleged negligence in failing to have a mental patient properly guarded, resulting in the patient's jumping or falling from a window of a hospital. In that particular case, liability was denied, the court taking the position that negligence, if any, was that of the guard and not of the physician. At present, a case is pending in a United States District Court against a psychiatrist attached to a state institution, claiming that electrical shock treatments were administered for the purpose of punishment and not for the purpose of cure. Claims may be presented which are fantastic in character, and may be grounded upon assault and battery, undue familiarity, or other acts which do not arise as frequently in the case of the medical practitioner as with the psychiatrist or psychologist.

If a psychologist follows orthodox practices and is conservative in his procedures, it is true that the possibilities of judgments being rendered against him are not too great. Even then, of course, it must be recognized that a careful man may err, and a resulting verdict could be substantial. No one can predict with accuracy what any jury will do. But,

[1] This article was prepared for and at the request of the Committee on Professional Liability Insurance. It was included as part of the Committee's report to the Council. The Council voted to have it published.

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even if the defense of a case is successful, the professional man may emerge from his victory greatly impoverished.

Similar factors should be considered by psychiatrists in determining their hazards. Being more active in the treatment of private patients, and being engaged in pursuits common to medical practice, their exposure is greater than the average psychologist's. Therefore, discussion of this subject may be considered equally appropriate to these allied professions.

In order to defend any lawsuit, whether well-founded or not, a defendant incurs very considerable expense in attorney's fees, court costs, witness expenses, deposition fees, expert testimony, and other costs which may run into enormous sums. If the case is not terminated in the trial court, the expenses of preparation of the record for appeal, printing costs, briefs, and appearance fees in the higher court, and legal fees, may run into thousands of dollars. A Pyrrhic victory is not much satisfaction to the victor.

In addition to these expenses, however, another element is of great importance. The professional man is not familiar with the defense of such cases. He may neglect to secure, by investigation or otherwise, the data necessary to ground a successful defense. If a suit is filed against him, his impulse is to take the summons immediately to his family attorney, who may be a splendid individual, but wholly unqualified as a specialist in the defense of such claims. His efforts, though well intended, could be unsuccessful in a case which would be won by an attorney specializing in the handling of such matters.

It is perhaps for this reason, more than any other, that the business of insuring against professional liability has become an industry of its own. Companies which engage in this industry for profit have a diversification of risk. The technical term is a "spread." Each individual in a group contributes a small amount against the potential hazard which may arise to him and to his fellow insureds. Even more important, since such companies deal with these claims in the regular course of business, they acquire great skill in their preparation and defense. They know the lawyers who are qualified to defend these cases most ably, and, from their vast experience in other cases, are able to lend help and guidance to these attorneys to prevent an adverse verdict.

The individual practitioner cannot afford to carry this risk himself. The hazard is too great, and his experience is too limited. Nor can a professional organization, such as the American Psychological Association, undertake to do so. It has no background of experience which would qualify it for this purpose. It would have to set up an allied organization and employ the same type of personnel as would an insurance company, resulting in no saving. In most states, in order to offer an insurance service, the organization would have to qualify as an insurance company with similar reserves, and be subject to the supervision of the various state insurance departments. If it decided, after several years of operation, to discontinue such activity, the member who had a claim then pending might find himself in the unfortunate situation of having no organization to carry on his battle.

Insurance, then, against professional liability may be of definite benefit to the psychologist. Of course, there are limitations imposed upon the scope of such policies. It must be recognized that such insurance can only be afforded against "civil" liability. This refers to actions brought by a client for damages allegedly resulting to him, or by others usually related to the client seeking related or consequential damages. Insurance cannot be written against the hazard of being prosecuted by state authorities for conducting the practice of medicine without a license. It is considered against public policy to insure against such proceedings. That is a matter of public policy which should be handled by the organization with the various state authorities in order to secure appropriate legislation and licensing laws.

It has been suggested that the existence of insurance might breed litigation. In practice, that is not the result. The psychologist does not frame his insurance policy and hang it upon the wall. The existence of insurance is known only to him and to the insuring organization. Indeed, the ordinary "shakedown" racket can seldom be worked successfully and will usually be dropped where a professional insurer stands ready, willing, and able to defend a fraudulent suit to the last ditch. Where the individual psychologist might, because of his inexperience and timidity, tend to make a nuisance payment to such persons, the insurance company is in a position to secure complete data concerning the background of such individual and to join in battle on behalf of the psychologist.

It has also been suggested that no insurance company would be willing to undertake such a risk at any reasonable rate. At the request of your officers, I have made an investigation of this matter, and have secured specific information relating to it. It is apparently going to be possible to work out a contract with a qualified American company which will undertake these risks. In order to interest such a company in going into this new field, it is necessary, of course, to secure a sufficient volume of business to give it an adequate "spread." I should say that it would require a minimum of 15 per cent of the membership in order to accomplish the desired objectives.

The ordinary forms of professional liability policies which are now issued are antiquated in their terminology and do not serve adequately the needs of a psychologist or psychiatrist who desires adequate protection. It is my conviction that an entirely new type of insurance contract should be drafted by joint conference between representatives of the organization and representatives of the proposed insurance company which will cover the hazards with a minimum of technicalities. There is no reason why such a contract cannot be streamlined and completely modern.

With reference to the amount of desired protection, many physicians now purchase a $5,000 or $10,000 limit policy. This is wholly inadequate. I strongly recommend that a minimum of $25,000 protection be afforded by any such contract. As to the required premium, that will necessarily vary according to the nature of the professional services performed by the insured. Probably it will be necessary to break his activities down into particular categories and charge a different rate for each category, depending upon the degree of exposure. Thus, a psychologist in a metropolitan area with many private clients would pay a higher premium than a psychologist employed by a university handling only occasional consultations or working in a research capacity. This is not only necessary from an insurance point of view, but is entirely equitable. While the psychologist handling only occasional consultations would still have potential legal liabilities, even if he charged no fees for such consultations, his exposure is far less than the active practitioner's. Rates will also vary according to the locality and size of the community in which such person practices. However, it is my belief that the insurance rates thus evolved will be definitely less in cost than rates quoted by the few organizations presently undertaking such risks for, let us say, psychiatrists or surgeons.

As to the mechanics by which such an insurance program would be handled, it would be necessary for the American Psychological Association to set up, either within its own organization or as an allied entity, a screening committee which would eliminate in the first instance any persons known to be undesirable risks. This is not meant to be derogatory as to any member. It is merely a practical procedure which would have to be followed. The organization is intimately familiar with its own membership. The insurance company is not. To avoid a grossly unfavorable experience, which would require a substantial increase of the rates of all members, an orthodox protective mechanism of this type would be indispensable.

It is suggested that the American Psychological Association should have nothing to do with the insurance program itself. Any other decision would lead to complications and to a considerable increase in the overhead cost of the organization. It would, however, send along the application forms, announcements, and descriptive literature of the plan to its members with its regular mailings to the members. Then, when a sufficient number of members had determined to proceed with the plan, it would become effective. Premium notices would be sent directly by the company or by the brokerage unit entrusted with its administration. Supplemental literature could be distributed by the organization from time to time in an effort to secure as nearly as possible a complete enrollment in the plan, so as to reduce the premium costs to all members.

There would be a certain amount of annual legal expense incident to the administration of such a plan. It is my feeling that such an expense is an overhead item, similar to brokerage and clerical expense, which should be absorbed by the brokerage agency as an item of its overhead, and not by the American Psychological Association. This would be one of the points upon which bargaining could be conducted.

In view of the foregoing matters, I have submitted the following recommendations to your officers: (*a*) that a program of professional liability insurance is definitely desirable; (*b*) that the American Psychological Association is not equipped

to undertake such an insurance program as a self-insurer, or as a group insurer; (*c*) that such insurance be undertaken through the medium of an existing casualty insurance company; (*d*) that none of the existing policies or existing plans meet with my approval, and that a new policy be designed to meet the existing needs of the members of this organization; (*e*) that prevailing insurance rates for comparable coverage are excessive, and that by cooperation of the members of this organization a more satisfactory rate schedule can be established; and (*f*) that the American Psychological Association and its members coordinate their activities in this regard, through the officers of the organization, to evolve a plan best meeting the needs of the members at a minimum of expense.

SAMPLE PROFESSIONAL LIABILITY POLICY [2]

THE BLANK INSURANCE COMPANY, for and in consideration of the payment of the premium recited below, hereby insures:

James P. Brown, of Camden, Georgia, for a term expiring ——— in the manner and form and according to the provisions hereinafter set forth:

A. The classification of the insured is:

—— Full-time practicing psychologist, defined as a person who devotes an average of 1,000 hours annually to consultation with or the testing, assessing, counseling, or advising of clients.

—— Part-time practicing psychologist, defined as a person who devotes an average of less than 1,000 hours annually to consultation with or the testing, assessing, counseling, or advising of clients.

—— All other psychologists not falling in the above classifications.

B. The policy limit is $25,000, as to each occurrence. (Greater amounts can be secured, at a reducing rate for excess coverage.)

C. The geographical classification of the insured, for premium rating purposes, is as follows: A —, B —, C —, D —.

D. The premium rate for the above insured, based upon the above classification, is $———.[3] Should the insured be erroneously classified, the insurance shall not be voided but there shall be due and owing to the insurer such additional premium, or to the insured such return premium, as shall be due and owing for the coverage period based upon the proper classification.

The conditions of the insurance are as follows:

1. The insurer agrees to pay on behalf of the insured all sums not in excess of the policy limits which the insured shall become legally obligated to pay as a result of any civil liability of the insured arising from professional acts of the insured performed during the policy term as a psychologist in the course of professional employment, research, assessing, counseling, or advising of clients.

2A. As respects this insurance, the insurer agrees to:

a. Handle the investigation and settlement or defense of any such claim even if such claim or suit is groundless, false, or fraudulent;

b. In addition to the policy limits, pay any interest incurred upon any judgment, court costs, legal fees, appeal or costs, bond premiums, and other expenses reasonably incident to any such litigation and including any travelling expenses of the insured in attending the place of trial.

2B. The insurer shall have the sole and exclusive right to conduct such investigation, adjustment, or litigation, but shall not settle or compromise any claim or suit without the written consent of the insured and, subject to the insured's desire, must defend any claim or suit until all legal remedies have been exhausted.

3. The limit of liability stated in the policy shall apply to a single claim and to all claims, irrespective of number, arising from the same occurrence, and payment of any claim shall reduce the policy sum to such extent as to other or additional claims arising from such occurrence.

4. Bankruptcy, insolvency, or death of the insured shall not relieve the insurer of its obligations

[2] As previously stated, an attempt has been made to make this policy as simple, yet broadly functional, as possible. It is hoped that it can meet the rather divergent needs of psychologists in institutional employment, private practice, and research equally. The reader should bear in mind that *special provisions* can always be written into a policy (with corresponding increases in premium). The effort here is to provide a maximally useful, minimally expensive *basic* policy, which can be adapted to singular circumstances. A policy that anticipated all conceivable contingencies would be cumbersome; the aim is to achieve the widest possible degree of applicability consistent with simplicity and brevity.

[3] Rate would depend upon classification, geographical location, and amount of coverage.

hereunder to the insured or to his legal representatives.

5. Liability shall be excluded in each of the following instances:

a. Any injury, damage, or loss arising from negligence in the use of: (1) real estate, (2) automobiles, or (3) X-ray, diathermy, and shock-therapy apparatus.[4]

b. Any injury, damage, or loss arising from the prescription, use, or employment of medicines, narcotics, drugs, sedatives, or surgery.

c. Any fines, criminal penalties, or liabilities other than those which are purely civil in character.[5]

d. Any contractual or quasi-contractual obligations, other than those based upon a contractual obligation as to the professional care and treatment of individuals.

e. Any injury received by a person related to the insured as spouse, parent, child, brother, or sister and any injury received by an employee,[6] employer, or associate.

f. Any liability of any type or character arising from acts performed at a time when the insured shall not have been duly certified as eligible for this insurance by the American Psychological Association.

[4] Insurance against 5*a*(1) and 5*a*(2) can be purchased specifically and is excluded here to reduce the cost of a purely professional policy.

[5] Insurance against such a hazard cannot be issued by any company, as it is considered against public policy.

[6] This refers to injuries *to* an employee, which could again be covered under a separate policy of workmen's compensation. Insuring against injuries to close relatives and associates presents too much opportunity for collusion to make such a risk attractive to a company.

6. As conditions precedent to enforcement of any liability upon the part of the insurer, the insured agrees:

a. In the event of receiving notice of claim or suit, or in the event of his becoming aware of any occurrence which may subsequently give rise to a claim hereunder, to give notice to the insurer immediately through the broker whose name is endorsed upon this policy; and thereafter to forward as soon as possible to said broker any summons or process served. Delivery of such information or documents to the broker shall be deemed to constitute receipt by the insurer.

b. To cooperate with the company in any respects required in the investigation, adjustment, or defense of all claims and, when so requested by the insurer, to attend any hearings and trials.

7. This policy may be cancelled upon the customary short rate basis by the insured by giving written notice and surrendering this policy to the broker. This policy may be cancelled by the insurer upon a like basis by giving ten days notice thereof to the insured at his address as stated in this policy, or, if his later address shall be known, then to that address, such notice to be given by registered mail and accompanied by a bank draft or company check for the return premium. The insurer shall not be relieved of liability arising from any occurrence during the policy term preceding the effective date of such cancellation.

Blank Insurance Company

A. B. Smith, Broker

(Address)

THE WORK OF THE AMERICAN BOARD OF EXAMINERS IN PROFESSIONAL PSYCHOLOGY

1953 ANNUAL REPORT

AMERICAN BOARD OF EXAMINERS IN PROFESSIONAL PSYCHOLOGY, INC.

THE American Board of Examiners in Professional Psychology presents in this report a record of its work for the year ending July 31, 1953.[1] This is the annual report of the Board to the Council of Representatives of the American Psychological Association and a general report to the membership of the American Psychological Association and the Canadian Psychological Association.

ACTION ON CANDIDACIES RECEIVED

To the date of this report, 1,727 candidates have applied for the diploma. In previous annual reports, the actions on all candidacies were presented in one summary. This report includes two summaries—one for senior members of the profession who made application under the provision of the "grandfather" clause, which terminated December 31, 1949, and another for candidates who did not apply or were not eligible to apply under the "grandfather" provision. For the latter group, the PhD degree is necessary for application, and written and oral examinations are mandatory in meeting requirements for certification.

Candidacies Received from Senior Members of the Profession

A total of 1,557 candidates applied under the "grandfather" provision in which the Board had the option of waiving either its PhD requirement, its examination requirement, or both, if the candidate appeared qualified on the basis of his training, work history, and endorsements. Thirty of this group were applicants holding membership in the Canadian Psychological Association with which the Board established a working relationship for the review of Canadian psychologists who met the same professional requirements as members of the APA.

TABLE 1

SUMMARY OF THE STATUS OF CANDIDACIES RECEIVED FROM SENIOR MEMBERS OF THE PROFESSION

1. Diplomas awarded		1,085
a. To members of the American Psychological Association	1,057	
b. To members of the Canadian Psychological Association	17	
c. Diplomas awarded upon successful completion of Board written and oral examinations	11	
2. Candidacies in process		148
a. Probationary cases	5	
b. Cases under continuing study	37	
c. PhD candidates with insufficient experience	24	
d. Non-PhD candidates with insufficient experience	20	
e. Admitted to written examination; examination pending	27	
f. Written examination failed; re-examination pending	14	
g. Oral examination failed; re-examination pending	13	
h. Oral examination completed in 1953; not yet evaluated by Board	8	
3. Candidacies terminated		324
a. For failure to continue candidacy toward meeting Board requirements	106	
b. Candidacies rejected		
(1) For insufficient training	2	
(2) Because of ethical considerations	6	
(3) With refund of fee	95	
c. For failure to appear for written examination		
(1) PhD candidates who failed twice to appear	60	
(2) Non-PhD candidates who failed once to appear	45	
d. Deceased while candidacy was in process	1	
e. Written examination failed twice	2	
f. Failure to appear for written re-examination within three years	5	
g. Oral examination failed twice	2	
	Total	1,557

[1] With reference to publication of historical and legal information concerning the work of the Board, see the 1952 annual report published in the November 1952 issue of the *American Psychologist*, page 671. With reference to announcements of the Board since the 1952 annual report, see the *American Psychologist*, Vol. 7 (1952), pages 487–488, 671–676, 701–702; Vol. 8 (1953), pages 130–131, 175–176.

Table 1 presents a cumulative summary of Board actions and indicates the status of all candidacies received under the special provision mentioned.

Of the 1,557 candidates who applied under the "grandfather" provision, 1,085 (70%) have been awarded the diploma. All but 11 of these were awarded with waiver of both written and oral examinations.

In every case where the diploma was not awarded, the candidate was invited to present additional information or interpretations for further consideration if he believed that the Board had omitted any factors in reviewing his case. Many requests for further review accompanied by a re-documentation of professional work experience and supplementary letters of endorsement were received. As a result of further investigation and evaluation, the diploma was awarded in 166 cases where the earlier decision was not to award. Continued case study and investigation by the Board account for the number of candidacies still active under the "grandfather" provision where final action by the Board has not yet been made.

In all cases, candidates who met the requirements as to the absolute minimal amount of experience, but the quality and breadth of whose experience did not, in the unanimous opinion of the Board, warrant waiver of examination, were invited to attempt to qualify by satisfactory performance on Board examinations. Of 186 candidates invited, 54 have taken the written examinations. Of this group, 29 passed on the first examination attempt. Of the 25 who failed on the first attempt, 14 are awaiting re-examination, one is deceased, three passed the examination on a second attempt, five were terminated for failure to appear within three years for a second examination, and two have failed the examination a second time. One hundred and five candidacies have been terminated for failure to appear for examination as prescribed in Board policy concerning examination privileges. Twenty-seven candidates admitted to the written examination have two opportunities yet to appear before final action is taken by the Board.

Category 2 is mostly self-explanatory. Subgroups *2c* and *2d* are candidates who were judged not to have sufficient qualifying professional experience at the termination date for the "grandfather" provision. Candidates with the PhD degree were required to present five years of acceptable, qualifying experience. Candidates without the PhD were required to have 10 years of experience acceptable to the Board. These cases are continued if the candidate gives evidence that he is proceeding to meet the requirements for candidacy which are now in force:

1. Membership in the American Psychological Association and/or Canadian Psychological Association
2. The PhD degree
3. Five years of acceptable, qualifying experience
4. Satisfactory endorsements
5. Satisfactory performance on written and oral examinations.

Candidates who do not proceed toward completion of requirements will have their candidacies terminated. To date, 104 candidacies presenting insufficient experience have been terminated on the basis of inactivity (*3a*). Category 3 presents an analysis of the 342 (21%) which have been terminated. The present policies of the Board for the termination of candidacies are as follows:

1. Candidacies in which the initiative for continuation is given to the candidate rather than retained by the Board shall be terminated after a two-year period of inactivity on the part of the candidate.

2. A candidate eligible for written examination who is notified regarding his eligibility for two successive written examinations and who does not present himself for either of these examinations shall have his candidacy terminated.

Candidacies active under the "grandfather" provision without the PhD degree, admitted to written examination on the basis of ten years of acceptable, qualifying experience, are required to take the first examination scheduled after the Board's final decision.

3. A candidate may request the privilege of re-examination without prejudice on either or both the written or oral examinations or on portions of the examinations, on payment of a re-examination fee.

The privilege of re-examination shall expire three years after the date of failure of the first examination, and candidacy shall automatically be terminated at that time.

Any candidate who shall twice fail either the written or oral portion shall be ineligible for further re-examination and his candidacy for the diploma shall be terminated.

However, such candidate may submit a new application with payment of a new candidacy fee at any time after the lapse of three years from the date of termination of the original candidacy.

The above policies, with the exception of the one on examination privilege for non-PhD "grandfathers," apply to all candidates for the Board's diploma.

All of the 32 candidates who passed the written examinations have appeared for oral examination.

In addition, two candidates, in whose cases the written examinations were waived, also have been orally examined. Of the 34 senior members taking the oral examinations, 11 passed on the first attempt, 16 failed on the first attempt, and 7 have not yet had their performance evaluated by the Board. Of the 16 who failed on the first trial, two have failed on a second attempt, 13 have re-examination pending, and one has been re-examined whose performance is awaiting evaluation by the Board.

Although nearly four years have elapsed since the termination of the "grandfather" provision for the submission of candidacies, 148, approximately 10% (Category 2), are still active and in process toward completion of requirements and final action by the Board. Continued investigation and further evaluation of these candidacies still constitutes a major portion of the work of the Board.

Candidacies Received under Provision of Mandatory Examinations

To date, 170 candidacies have been received where the candidate must present the PhD degree and five years of acceptable, qualifying experience, and for whom both written and oral examinations are mandatory. According to present Board policy, a portion of the five years of experience may have been acquired prior to the award of the doctoral degree. Board policy concerning the amount of postdoctoral experience is as follows: Candidacies received up to and including July 1, 1953 had to present two years of postdoctoral experience out of the required five years of qualifying experience. Candidacies received up to and including July 1, 1955 shall present three years of postdoctoral experience out of the required five years.

Of the 170 candidacies received to date, nearly 100 were submitted prior to July, 1950. Most of these came from candidates who were awarded the baccalaureate degree in the years immediately following the cut-off date for the "grandfather" provision, which was December 31, 1935. Between the period of the latter 1930's and activation of the Board in 1947, these candidates had already accumulated the necessary five years of acceptable, qualifying experience. Because of the limited number of candidates for the PhD degree in the graduate schools during the war years, the number of applications for the Board's diploma decreased in 1950 and 1951. During the fiscal year 1951–52, only eight new candidacies were received. During the past fiscal year, 49 additional candidacies have been submitted. This increase in the number of candidacies during the past year is an expression of the interest of newer members of the profession in the award of the Board's diploma.

TABLE 2

SUMMARY OF THE STATUS OF CANDIDACIES RECEIVED UNDER PROVISION OF MANDATORY EXAMINATION

1. Diplomas awarded to members of the American Psychological Association		43
2. Candidacies in process		106
a. Cases not yet reviewed	43	
b. Candidacies presenting insufficient experience	13	
c. Probationary cases	1	
d. Admitted to written examination; examination pending (APA)	12	
e. Admitted to written examination; examination pending (CPA)	3	
f. Written examination passed; oral examination pending	6	
g. Written examination failed; re-examination pending	5	
h. Oral examinations completed in 1953; not yet evaluated	19	
i. Oral examination failed; re-examination pending	4	
3. Candidacies terminated		21
a. Candidacies rejected		
(1) For ethical considerations	1	
(2) With refund of fee	2	
b. Failure to appear for written examination (two invitations)	11	
c. Failure to appear for written re-examination within three years	4	
d. Failure to appear for oral re-examination within three years	1	
e. Oral examination failed twice	2	
	Total	170

Table 2 presents a cumulative summary of Board actions and indicates the status of all candidacies received.

To date, 84 candidates in the above summary have taken the written examinations. Seventy-three (87%) passed the written examination on the first attempt. Eleven were judged not to have satisfactorily met the Board's standards. Of these 11, five are awaiting re-examination, two passed on a second examination, and four were terminated for failure to re-appear within three years.

Of the 75 who have passed the written examinations, 69 have taken the oral examinations. The remaining six have not, as yet, appeared for oral examination. Of the 69 taking the oral examina-

TABLE 3

ANALYSIS OF 1,128 DIPLOMATES OF THE AMERICAN BOARD OF EXAMINERS IN PROFESSIONAL PSYCHOLOGY AS OF JULY 31, 1953, CLASSIFIED BY FIELD, BY HIGHEST EARNED DEGREE, AND BY SEX

	Number	Percentage	
		Of Total Group	Within Field
Clinical			
PhD			
Men	357	32	49
Women	226	20	31
MA			
Men	30	3	4
Women	114	10	16
			100
Counseling and Guidance			
PhD			
Men	157	14	66
Women	51	4	21
MA			
Men	19	2	8
Women	11	1	5
			100
Industrial			
PhD			
Men	146	13	90
Women	6	0	3
MA			
Men	11	1	7
Women	0	0	0
Total	1128	100	100

	Number	Percentage
Number of diplomates		
Clinical	727	65
Counseling and Guidance	238	20
Industrial Psychology	163	15
Total	1128	100
Diplomates by highest earned degree		
MA	185	16
PhD	943	84
Total	1128	100
Diplomates by sex		
Men	720	64
Women	408	36
Total	1128	100

tions, 41 passed on the first attempt. In 14 cases, the performance was judged not to meet the Board's standards, and the performance of 14 candidates who took the oral examinations recently is awaiting evaluation by the Board.

Of the 14 who did not pass on the first attempt, two have qualified on second examination, two failed to qualify on a second examination, four have re-examination pending, five have recently been re-examined and are awaiting evaluation by the Board, and one did not appear for re-examination within three years.

ANALYSIS OF DIPLOMATES

The Board has continued its policy of announcing in the *American Psychologist* the names of successful candidates for its diploma. These citations are included in the footnote at the beginning of this report. In the various directories of the APA, all diplomates, to the respective date of publication, appear in alphabetical order within the field of their professional specialty. A general analysis of diplomates is presented in Table 3 of this report. This table shows the number and percentage of diplomates within each of the three professional fields classified both by sex and by highest earned degree. It may be noted that since the 1952 report, which included 1,088 diplomates, an additional 40 diplomas have been awarded, bringing the present total to 1,128.

The field of clinical psychology is represented by the largest number of diplomates, 727 (65%). Of all diplomates, 84% held the PhD degree at time of application.

WRITTEN AND ORAL EXAMINATIONS

In November, 1952, 27 candidates appeared for the fourth annual written examination which was administered in 17 local examining centers. The fifth written examination is scheduled for November 12–13, 1953.

Information on the performance of candidates on the Board's written examinations is given in the text following Tables 1 and 2 of this report.

The Board has adopted a policy of continuing revision of its written examination. The schedule for November, 1953 calls for two days of written examination. The revised written examinations will include:

I. *Basic Professional:*
1. A section of objective questions within the candidate's own professional field
2. A section in which the candidate may write at length on his own special competence within his professional field

II. *Advanced Professional*
A section of essay questions dealing with:
1. Client Relations
2. Scientific and Professional Relations

Since the date of the last annual report, the Board has scheduled seven oral examinations at the following examination centers: Los Angeles, San Francisco, Washington, D. C., two in Chicago, and two in New York City. Seventy-three candidates participated in these oral examinations. (For further information concerning performance on the Board's oral examinations, see the text of this report following Tables 1 and 2.)

All candidates who have passed the written examinations have been invited to oral examination. Candidates who pass the fifth written examination in November, 1953 will be invited to oral examination in the spring of 1954. According to the Board's present schedule of examinations, it is possible for an eligible candidate to complete both the written and the oral examinations and to have his performance evaluated by the Board within less than a calendar year.

The Board has been making a continuing study of its oral examining procedures. Because of the heavy cost of conducting oral examinations, the Board is attempting to reduce the extent of the examination procedure so as to effect minimum cost and, at the same time, maintain validity of the examination. On the basis of three years of experience and supported by the judgments of its diplomates who have served as oral examiners, the Board has found that a minimum of three hours with a candidate in oral examination is necessary for adequate evaluation. Further, the Board believes that a candidate should, where at all possible, be examined by more than one examining team. By increasing the number of diplomates who participate in the evaluation of both the written and the oral performances of a given candidate, the Board attempts to insure for the candidate a fair evaluation of his qualifications for certification as an Advanced Specialist in professional psychology.

Preparatory to oral examination, a field situation is set up in which the candidate has an opportunity to demonstrate his proficiency in a typical professional working situation. The Board attempts to prepare a field situation that is consistent as far as possible with the usual professional practice of the candidate. Approximately one-half day is spent in the field situation.

The oral examination procedure during the past year included a Professional Field Situation and the following four parts:

I. *Client Relations:*
A. Diagnosis or evaluation. (The definition of the psychologist's professional problem)
B. Therapy and/or recommendations. (The solution of the psychologist's professional problem)

II. *Scientific and Professional Relations:*
C. Skill in the interpretation and use of research findings. (What valid knowledge exists regarding professional practice?)
D. Organization and administrative problems of professional psychology. (What are the conditions of professional practice?)

For Part I-B, the candidate submits a sample of his recent professional work. This one sample may be a case history, a formal report, or a typescript of recorded interviews with clients or patients or of staff conference reports.

In Part II-C, the candidate is examined on his knowledge of research in his specialty and his competence in evaluating research design and methodology, as well as the interpretation of research findings.

Examination on Parts I-A and B is combined in one examining period with one examining team. This is also true for Parts II-C and D. Each examining team consists of three members. Two are diplomates in the candidate's field of specialization. A member of the Board serves as chairman and as third examiner.

For the conduct of its examinations, both written and oral, the Board has been most fortunate in the loyal cooperation it has received from its diplomates. During the past year, more than 100 diplomates have served the Board in administering and in reading and evaluating written examinations, and as oral examiners. In many different ways, the Board, in performing its work of certifying professional psychologists at a high level of competence, must continue to look to its diplomates and to other members of the science and profession of psychology for assistance. Each year there will be an increasing number of psychologists seeking the award of the Board's diploma through successful

performance on written and oral examinations. In the discharge of its obligations to our rapidly growing science and profession of psychology, the Board will continue to seek the assistance and loyal cooperation of its diplomates.

INQUIRY TO PROFESSIONAL PSYCHOLOGISTS

In making plans for the future, the Board was interested in the number of candidacies to be processed and the number of candidates to be examined in written and oral examinations during the next few years. In March of 1953, a questionnaire was sent to all members of the Division of Clinical and Abnormal Psychology, the Division of Consulting Psychology, the Division of Industrial and Business Psychology, and the Division of Counseling and Guidance who were not at that time diplomates of the Board and who had not made application. The membership of these divisions includes most of the professional psychologists who are potential candidates for the diploma of the Board after the accumulation of a sufficient quantity of qualifying experience. Nondiplomate members of these divisions were asked to express their intention with reference to qualifying at some future time for the Board's diploma. In addition, the Board invited a frank statement of interest in, or failure to be interested in, qualifying for diplomate status. This inquiry was sent to 950 psychologists in the membership of the four professional divisions of APA mentioned above. In response to this inquiry, approximately 400 replies (42%) were received.

The Board wishes to express its appreciation to all those who returned the questionnaire and especially to those who expressed in a frank manner their attitudes, whether positive or negative, toward the work and functioning of the Board and the significance of the diploma. The results of the study have been analyzed and, in many instances, the Board has made written reply to responses received.

Of the 400 from whom the Board received replies, 60% intend to qualify at some future time for certification. Postponement of date of application is, in a great many instances, occasioned by the policy of the Board with reference to the amount of postdoctoral experience necessary as part of the required five years.

Of those who do not intend to qualify for the diploma, only 17 objected to the examinations or to general Board procedures. Only 21 did not consider it worth while to seek the diploma. The remainder of the group answering the questionnaire, who do not intend to qualify, are psychologists who are retired, unemployed, housewives, those who do not possess or do not intend to seek the PhD degree, or persons for whom the diploma would not be appropriate in view of their present activities. The extent of the positive replies received from this study indicates, we believe, that the American Board of Examiners in Professional Psychology has established a valued place for itself among professional psychologists.

DIRECTORY OF DIPLOMATES

The Board has prepared its first Directory of Diplomates, which was available for distribution in the month of August. This Directory included a statement of the purpose and functioning of the Board in the certification of Advanced Specialists in professional psychology, as well as a listing of diplomates according to geographical location. The specialization of each diplomate is indicated in the Directory. It is intended that this Directory will inform the public of advances made by the profession in the certification of competent and qualified psychologists.

FINANCIAL PROBLEMS

Prior to the termination of the "grandfather" provision, the Board received 1,557 applications. Application fees and fees for the award of the diploma from these candidacies created a financial reserve which kept the Board solvent from December 31, 1949 through 1952. During the past year, expenses have continued to exceed income, and the Board no longer has any financial reserves to meet this deficit. During the current year, this deficit has been offset by a grant of $2,700 from the American Psychological Association.

The present operation of the Board with a deficit is due to the decreased number of application and examination fees received. The results of the questionnaire mentioned above indicate that this is not due to lack of interest in the award of the diploma. Rather, it is due to the limited number of candidates for the PhD degree in the graduate schools during the war years. A number of psychologists engaged in professional work who are interested in future certification by the Board presently are accumulating the necessary five years of qualifying

experience. From the Board's investigation, it is anticipated that an increasing number of applications will be received each successive year.

During the past two years, the Board has given a great deal of thought and consideration to possible ways both to reduce expenses and to increase income. The expenses of the Board may be classified in two categories—office expenses and travel expenses in connection with meetings of the Board and the conduct of its oral examinations. During the past year, all possible economies have been made in the expense of operation of the executive office. At the time of this report, 254 candidacies are still in process awaiting final action by the Board. An examination of Category 2 of Tables 1 and 2 in this report indicates the extent of the further work of the Board necessary in connection with these candidacies.

A large single item of expenditure is travel expense connected with meetings of the Board and the conduct of its oral examinations. During the past year, the Board has met two times—once in February and again at the time of the meetings of the American Psychological Association. The latter is the Annual Meeting of the Board. The possibility of a single meeting has been considered. From the beginning, however, the Board has not felt that it could award diplomas unless all members of the Board were present at one time to review the candidacies and to vote on the award of the diploma. After very careful consideration, the Board is of the opinion that one meeting is necessary for the review of candidacies, the evaluation of performance on written and oral examinations, and the award of the diploma. A second meeting is necessary for the review and formulation of policies and the consideration of special problems confronting the Board.

In addition to attempts to reduce expenses to a minimum, the Board has explored possibilities for income other than that received from candidacy fees. It seems evident that, for a number of years, income from candidacy fees will not be sufficient to cover expenses of operation. Presently the Board is exploring with the Board of Directors of the American Psychological Association possible ways and means for the solution of present and future financial problems.

PERSONNEL CHANGES IN THE BOARD

In September, 1952 Reign H. Bittner, Stanley G. Estes, and Donald G. Marquis were elected as members of the Board, each for a term of three years, to succeed Carlyle Jacobsen, Jean W. Macfarlane, and David Wechsler. Dr. Jacobsen and Dr. Wechsler had served continuously since the incorporation of the Board, and Dr. Macfarlane had served since 1949. The Board publicly acknowledges the distinguished service given by these retiring members and expresses its grateful appreciation.

CONCLUSION

The records of the Board are examined annually by qualified auditors. These annual audits of the Board are open for inspection at the office of the Secretary-Treasurer, as are the policies of the Board recorded in the official minutes of Board meetings. The Board is ready at any time to make available to the American Psychological Association and the Canadian Psychological Association membership any information, except that of a confidential nature, which will assist in the understanding of its operations. The Board invites suggestions at any time from members of the science and profession of psychology concerning its work and functioning. A list of the new officers and members of the Board after the official meeting held in September, 1953 appears in this issue of the *American Psychologist*, page 635.

REIGN H. BITTNER
STANLEY G. ESTES
NOBLE H. KELLEY
GEORGE A. KELLY
DONALD G. MARQUIS
HAROLD C. TAYLOR
RUTH S. TOLMAN
AUSTIN B. WOOD
C. GILBERT WRENN

REPORT OF THE APA REPRESENTATIVES TO THE AAAS COUNCIL

FOR many years probably the most important function performed by the American Association for the Advancement of Science was to provide the occasion for the annual scientific meetings of various biological and physical sciences and to publish journals containing technical articles in these fields. The programs of the AAAS meetings and the contents of *Science* and *Scientific Monthly* provide ample evidence of the excellent manner in which this function was performed.

Progressively the different scientific societies shifted their annual meeting to some time and place other than that of the annual meeting of the AAAS. The last large group to shift was the American Institute of Biological Sciences. This was apparently the stimulus that led the AAAS to re-examine its objectives and functions. This occurred at the Arden House Conference in September, 1951. The Arden House Conference made the following recommendations: [1]

> It might perhaps profitably be said that the members of the Arden House Conference did not intend that this statement be viewed as a polite rephrasing which suggests only minor changes. This statement calls for four main things:
>
> 1. A real strengthening of the direct usefulness of the AAAS to scientists and to scientific societies.
>
> 2. A shift in emphasis from the more detailed aspects of the various technical branches of science to the broader problems of science as a whole.
>
> 3. The cultivation of synthesizing and unifying activities as the main emphasis of the AAAS in its internal work within the body of science.
>
> 4. The undertaking of attempts to improve public understanding of science as the main external emphasis of the AAAS.

The Council of the AAAS approved these recommendations in December, 1951 and authorized President Kirtley Mather to appoint a committee to study and recommend how best to implement these objectives. Unfortunately, this committee was not established. Again at the St. Louis meeting in December, 1952, the Council endorsed the Arden House objectives and urged that action be taken to implement them.

There is clear need, especially at this time, for an organization whose objectives are essentially those stated by the Arden House Conference. The AAAS is uniquely qualified to enable it to become such an organization. Moreover, its governing body, the Board of Directors, has accepted these objectives for the organization.

It is to be hoped that under the forthcoming leadership of President-elect Warren Weaver the AAAS will take active and effective steps to implement the objectives stated by the Arden House Conference. Dr. Weaver played a major role at this Conference and in reporting the Conference recommendations to the AAAS Board of Directors and Council.

Effective implementation of these objectives by the AAAS will require a major reorganization of the Association and a major shift in Association activities. The present organizational structure of the Association is obsolete, particularly with regard to the behavioral sciences. The contents of its journals still reflect past rather than present policies. The AAAS journals can become factors of great importance in implementing the Arden House objectives. Imaginative and courageous program development will be required for the meetings of the AAAS to reflect its new policy.

The representatives of the APA to the AAAS Council recommend that the American Psychological Association cooperate in every feasible way in assisting the AAAS to make the contemplated changes.

RENSIS LIKERT
CLIFFORD T. MORGAN

[1] *Science*, 1951, 114, 471–472.

ANNUAL REPORT OF THE EXECUTIVE SECRETARY: 1953

FILLMORE H. SANFORD

American Psychological Association

EACH year at this time, the Executive Secretary faces a fairly disagreeable choice in deciding about the content of the required annual report. He can choose, on the one hand, to walk among the grubby facts not elsewhere reported, or, on the other, to take flight into the clouds of generalizations and speculation. This year I think—and hope—I have found a workable compromise. So, with one foot on the ground and the other in the clouds, the Executive Secretary renders a report.

Last year, when dues were raised for some APA members the Central Office received a number of letters on the general topic of dues and finances. Some of these remarked upon the basic decency involved in the method of charging according to the ability to pay and of removing the financial implications of Fellowship in the Association. Others were quite different. For example:

Dear Sir:

Enclosed is my check for $17.50 and here is my violent protest at paying so much. If I did not need to be an APA member in order to keep my job, I'd resign in a minute.

Gentlemen:

I hope you will convey to the Board of Directors my protest of the recent increase in dues. I have heard that people around Washington refer to that fancy new building as the APiary; I'd like to suggest that a more appropriate name is the Rookery.

Dear Dr. Fillmore:

I wish to record my strong opposition to the increase in dues. I do not understand why it is desirable for clinical psychologists to appoint one another to committees and then sit around, at my expense, thinking up new ways to milk the public. I regard myself as a scientist. . . .

Gentlemen:

I would feel much better about paying $17.50 to APA if I felt that anybody in the organization were concerning himself about the welfare of those of us who are on the forefront of applied psychology, working 18 hours a day to advance psychology where it counts. I don't have time to read your unintelligible journals or to attend meetings to hear pseudo scientists talk over each other's heads.

We in the Central Office had to be very nondirective in replying to such letters. We had a feeling that APA membership is a great bargain, but we had no evidence to cite in answer either to these articulate protests or to the quieter suspicions that one could probably find in the minds of a number of our members. Nor did we really have evidence to cite to ourselves. We needed it, for none of us relished the thought that we were spending our time minding the business of an outfit that milks its members more than it feeds them, that takes more than it gives—or, on a higher plane of aspiration, that takes one iota more than necessary or fails to give one j.n.d. less than possible.

The present report attempts to deal with the question of what it is worth to belong to APA. This is not an easy problem to examine, for the easily obtainable evidence on its tangible facets is not particularly relevant, and the really relevant facts concerning the crucial intangibles are difficult to acquire. The quality of any product lies in the eye that perceives it. Psychologists' eyes come in a wide variety of shapes, sizes, and colors, and the casual observer might easily come to the conclusion that any two given psychologists mutually surpass one another in the intricacy of their perceptual systems.

But difficult or not, it seems to me that every APA member ought to examine for himself the question of what his membership is worth. If he finds that it is worth too little, he ought to do something about it. He can work himself up into a righteous huff and resign—with great pleasure and equal ineffectuality. Or he can work to change APA in such a way that membership can be more meaningful. Though we are now large and intricate and stable, it still seems to be true that any single individual can throw our whole government into intelligent and concerned confusion by dropping one well-considered hint of genuine unhappiness. APA is run by its members. And its mem-

bers are the only ones who can ensure that it is run *for* its members.

Now for some evidence. First, what can be done to assay the more concrete aspects of the bargain between APA and its members? One way to examine the possible exorbitancy of our annual dues is to compare them with those of other associations.

In a book published in 1948 by the National Research Council [1] there are data on the history, purposes, membership, and dues of 1,302 scientific and technical groups in the United States. From this handbook I selected, with horseback randomness, a group of 50 organizations which seem similar to ours in terms of arrangements for dues and membership. For each organization I set down bare facts concerning dues and publications in order to get a comparative view of APA.

Column 1 of Table 1 contains 1947 data on the annual dues, for the highest category of membership (usually Fellows), charged by each of these 50 organizations.

The data show that in 1947 APA was in the middle ranges with respect to dues. Our dues have, of course, increased—along with everything else—since 1947. But it is probable that the average income of psychologists has climbed at least as rapidly as have APA dues, so that our present dues represent about the same amount of *pain* as those of six years ago. While I have been unable to get data on how our present dues compare—in either pain or hard negotiability—with those of fern lovers or proctologists, it is very safe to conclude that in 1947 APA dues were in line with those of similar organizations. And it seems fairly safe to conclude that 1953 data would show us still to be in the middle ranges. It is reasonably safe, in the face of known financial realities, to conclude that other organizations have either increased their dues since 1947 or have cut down drastically the scope of their operations.

One wonders immediately about what the members of all these organizations get for their money. Organizational activities vary widely, but every member of nearly every organization gets for his dues a "free" publication of some sort. For 1947 we have data on the publications produced by the 1,302 groups and on the open-market price of these publications. For each group we can compare this price with the amount of dues. This comparison can be made very simply in terms of percentages. For example, the American Association of Medical Social Workers paid $10 annual dues and received a bulletin worth $1. They score 10 per cent. The American College of Surgeons charges $25 and sends no publications, scoring 0 per cent. The Federal Sewage Research Association charges $3.25 and sent nothing, likewise scoring 0 per cent. The American Educational Research Association charged $5 and sent a journal worth $4, making a score of 80 per cent. Column 2 of Table 1 gives this sort of score for each of the 50 organizations for which it was possible to compute it. The facts make it clear that APA, with a score of 210 per cent, leads all the rest by far.

I have not computed this score for all 1,302 organizations. But when the high APA score on this criterion turned up, I thumbed for more than an hour through the source book without finding any groups other than AAAS and APA scoring higher than 100 per cent. We were, in this respect, a unique organization in 1947. We probably remain unique. For 1952, if we value the APA Publication Manual at $1, APA publications sent to our members had a market price of $22.00. Dues for 8,000 of our members were a little more than half that amount. The 1952 Fellows had somewhat less of a bargain, but still the score was high.

I have, for understandable if not very admirable reasons, shown these data to several employees of other associations in Washington. They marvel. They want to know what we do, if anything, besides publish. I marvel back. I want to know what *they* do with all their money if they don't give their members journals.

Such questions, if generalized, could lead to some fairly interesting research on the relations between the dues and the functions of scientific and technical organizations. What do they do with their money? I have no systematic data, but my limited exposure to skeletonized data concerning these organizations has led me to some general impressions which may be worth setting down—as hypotheses. These hypotheses may help us see what sort of organization we have.

Hypothesis 1. It costs from $1 to $2 per member per year for an organization merely to exist. To keep membership records, to elect officers, and to conduct one or more annual mailings to mem-

[1] Handbook of scientific and technical societies of the United States and Canada. (5th Ed.) *Nat. Res. Coun. Bull.*, April 1948, No. 115. Washington, D. C.: National Research Council, National Academy of Sciences.

TABLE 1

DUES OF 50 SCIENTIFIC AND TECHNICAL ORGANIZATIONS AND PERCENTAGE OF DUES RETURNED IN PUBLICATIONS

Organization	*1947 Dues for Full or Senior Membership*	*Percentage of Dues Returned in Publications (Retail Value)*
Academy of Medicine of Cleveland or Cuyahoga County Medical Society	$ 35.00	Monthly Bulletin (price unknown)
Acoustical Society of America	8.00	100
Actuarial Society of America	10.00	30
American Academy of Allergy	35.00	21
American Academy of Oral Pathology	10.00	0
American Association for the Advancement of Science	5.00	150
American Association of Engineers	15.00	.07
American Association of Medical Social Workers	10.00	10
American Association of Physical Anthropology	6.00	100
American Association of Variable Star Gazers	10.00	Variable comments—no retail price
American Begonia Society	1.50	100
American Broncho-Esophagological Association	10.00	Annual transactions—price unknown
American Camellia Society	3.00	Quarterly news letter—price unknown
American Chemical Society	9.00	44
American College of Surgeons	25.00	0
American Educational Research Association	5.00	80
American Fern Society	1.50	80
American Geographical Society	10.00	50
American Hearing Society	3.00	100
American Numismatic Association	3.00	100
American Osteopathic Association	30.00	33
American Proctologic Society	100.00	Transactions—price unknown
American Psychiatric Association	30.00	27
American Psychoanalytic Association	25.00	28
American Psychological Association	10.00	210
American Public Health Association	10.00	50
American Rock Garden Society	3.50	0
American Shore and Beach Preservation Association	5.00	40
American Society for Psychical Research	25.00	20
American Society for the Study of Sterility	15.00	0
American Society of Refrigerating Engineers	15.00	53
American Speech Correction Association	10.00	35
American Urological Association	15.00	66
American Water Works Association	25.00	28
Association of Consulting Chemists and Chemical Engineers	100.00	0
Association of Geology Teachers	1.00	0
Association of Official Seed Analysts	10.00	33
California Medical Association	60.00	8
Casualty Actuarial Society	11.00	45
Duodecimal Society of America	3.00	33
Eastern Psychological Association	1.00	0
Federal Sewage Research Association	3.25	0
Industrial Management Society	12.50	16
Massachusetts Medical Society	25.00	24
Medical Society of County of New York	30.00	10
Medical Society of the State of North Carolina	10.00	33
National Association of Corrosion Engineers	7.50	66
National Education Association	5.00	80
National Macaroni Manufacturers Association	750.00	.02
Philadelphia County Medical Society	27.50	7
Potato Association of America	2.00	100

bers can be fairly expensive operations unless done by volunteers. The unit cost for such functions should go down as membership increases, representing one of the efficiencies that can come with increased size. For APA, even with its complex journal records and with the phenomenal ability of psychologists to change their addresses, crude cost accounting indicates that these more vegetative functions cost about 75¢ per year per member.

2. *It costs from $3 to $5 per year per member if*

the organization exists and holds an annual meeting. Unlike APA, many organizations have their meetings planned and run by hired professionals. APA meetings are run almost exclusively by amateurs. Which means we have cheaper, and probably much better, meetings. In 1953, the meetings will cost about 20¢ a member. The figure would be somewhat higher, of course, if we included the "professional" help—or alleged help—the Central Office has given the amateurs. And the figure would be higher still if the hired hands involved did nothing but worry about meetings. They would probably find ways to make the planning and running of meetings into a big production and a big job. (This line of thinking suggests, incidentally, that one way to keep professional bureaucrats from having too much influence on APA's affairs is to keep them overworked and underpaid, giving them no time to become—or to feel—indispensable with respect to any one or a series of functions. It is the judgment of the Central Office staff that APA does pretty well in this respect.)

3. *Associations composed solely of teachers charge very low dues.* This may be because teachers are too busy to create for themselves any sort of active or time-consuming organization. Or this alleged fact may be part of the more inclusive fact that the dues of scientific and technical organizations vary with the mean income of members.

4. *Organizations of scientists generally charge lower dues than organizations of professional people, unless the science is closely allied with the medical profession.*

5. *Organizations of an honorary nature, with a strong element of exclusiveness in their membership requirements, cost their members much more than nonexclusive interest groups.* It is less expensive to gratify a technical interest than to satisfy the need for status. This constitutes a philosophical commentary on life in general.

6. *Organizations engaging in promotional or lobbying activity charge higher dues than those who do not attempt to influence the way the world goes round.* It is probably the case that when a scientific or technical group wishes to engage in public relations it hires outside people to do it. Generally such outside people come at a high price. The groups are willing to pay because they not only can thereby secure special skills, but they escape the conflicts involved in doing this work—often perceived, with some accuracy, as dirty work—for and by themselves. Psychologists have not yet stooped —or matured, some will say—to vigorous and organized promotional campaigns. We have something of a public information program and we do pay for a third of a professional to help us. But if the program is public *information* rather than public *relations* it will always be relatively economical. To inform costs less than to persuade.

It seems eminently clear that, in comparison to members of other organizations, APA members have a bargain. The magnitude of the bargain, however, is thrown into uncertainty by the fact that our "free" publications tell some of our members much more than they want to know about psychology. And others less. This is a problem to which we will return later. At the moment, in terms of the sort of crass consideration we have been dealing with and in the eyes of informed representatives of other associations, APA members make out very well.

There is one additional fact, incidentally, that should be tacked on to this argument. Along with "free" publications an APA member has the privilege of subscribing to our seven other journals at very reduced rates. This is a tangible benefit that should not be overlooked. If there were a nonAPA psychologist possessed of sufficient scholarliness and affluence to subscribe to all ten of our journals, on the open market he would have to pay what libraries pay for them, $80 a year. An APA member can get them all, and still pay his dues, for $39.50. This is a saving of $40.50. A large proportion of our members, of course, lack the inclination and/or means to capitalize on this tremendous saving.

When we turn from publications to other APA operations we turn also from the calculable to the incalculable. What a member gets out of the varied nonpublications activities depends on (*a*) what the member is interested in, and (*b*) APA success in forwarding these interests. In considering such things, both feet easily leave the ground. We no longer deal with known production costs or market values, and we treat of things that cannot be counted or stacked up or measured with precision. But we are nevertheless dealing with what many of our members regard as the really significant income from APA—its success in pursuing its stated goal of "advancing psychology as a science, a profession and as a means of promoting human welfare." Attempts to assess the deeper concerns

of psychologists and attempts to describe APA's success at advancing what its members want advanced can yield, at the moment, only very fuzzy declarative sentences. But we can analyze quantitatively the value of the time and energy that goes into APA's pursuit of its goals.

In our fiscal year just ending, a moderately rough estimate indicates that the members of the Board of Directors, the Council of Representatives, and various other Boards and Committees worked a cumulative total of about 4,500 hours on APA business. On the principle that a good psychologist is worth about half as much as a good dentist, let's put a price of $10 an hour on his time. This means a total of $45,000's worth of professional time that has gone into APA's affairs. This averages out to about $4.10 a member for 24 minutes of the time of a leading American psychologist. This time is, of course, given free and freely by those who consider APA projects worth the work they entail.

During 1952, the professional staff of the Central Office worked a total of 13,300 hours on Association business. This averages out to about an hour and 20 minutes per member. At the $5 an hour the Association pays for this time, this amount averages about $6.70 per member.

If we assume that each of our nine volunteer editors works an average of 10 hours a week for 50 weeks a year we end up with an annual total of 4,500 hours of volunteered editorial time. On the open market this is also ten-dollar time and amounts to another $4.10 per member.

Then there is secretarial help. It is a good estimate that each member takes up about two hours of secretarial time in the Central Office or elsewhere. A figure of $1.50 an hour is equitable for this work.

Now, let's do some arithmetic:

Dues	*Open Market Value of Returns*	
$12.50 or 17.50	Publications (1952)	$22.00
	Boards and Committees	4.10
	Editors	4.10
	Central Office Staff	6.70
	Secretarial	3.00
	Total	$39.90

This crass way of figuring yields what appears to be additional evidence that APA membership is a bargain. The fact remains, of course, that receiving even $139 worth of journals and services is not a bargain to an individual who doesn't want them. It would be sheer altruism, for example, for a chemist or a professor of ancient languages or a plumber or a watermeter reader to pay $17.50 a year into the APA treasury. But for a psychologist, almost any sort of psychologist, the tangible and intangible return seems to be at a good level.

Another way to examine what members get for their dues is to study our financial records with an eye to the detailed disposition of dues income. Our books contain some of the legerdemain of accountancy, but still make fairly straightforward sense. Let's look at what happened to the 1952 dues dollar.

Item	*1952 Amount*	*Percentage of 1952 Dues Dollar*
Printing costs, *American Psychologist*	$ 28,837.06	23
Printing costs, *Psychological Abstracts*	31,311.60	25
Printing costs, *Psychological Bulletin*	14,933.10	12
Nonpublications salaries	28,110.40	22
Allowance to Recording Secretary	400.00	.3
Board and committee expenses	15,821.90	12.5
Supplies	2,767.88	2.0
Postage	1,431.03	1.1
Rent	1,881.21	1.5
Lawyer and accountant	2,233.46	1.8
Insurance	399.62	.3
Travel, Central Office employees	676.25	.5
Annual meeting	3,349.00	2.6
Telephone and telegraph	485.71	.4
Annual elections	1,912.29	1.5
Miscellaneous	3,624.92	2.9
Total	$138,175.43	109.4

Total dues for 1952 income from Associates, Fellows, and Foreign Affiliates—$125,166.09

These figures say that for each dollar of dues coming into the treasury in 1952 the Association spent $1.09 on functions and services directly chargeable to dues. And we ran no deficit. It is probably accurate to say that taxpayers never had it so good. (Incidentally, I tried to have this information graphically depicted in a pie chart, but without success. I thought that Washington, even present-day Washington, could offer numerous experts at graphic presentation of such a thing as a $1.09 expenditure for each $1.00 income. But ap-

parently, though present-day Washington is familiar with the problem, there is some disinclination to participate in an effort to convey such information to the taxpayers. And one must admit that there is a technical problem involved in getting a pie chart to contain 391 degrees.)

Where does this extra 9 per cent come from? Its principal source is the profitable sale of back issues of our journals. Former managers of APA business had the good judgment to order and store a large number of extra copies of our journals. And American psychology had the good judgment to expand, so that more libraries needed our journals. Present APA members reap the benefits.

There is one other facet to this materialistic calculus. APA has tangible assets belonging to its members. We have a building, we have other investments, we have a flourishing publishing business, and we own more than 100,000 copies of back issues of our journals. No one has bothered to place a market value on all these things, but it is a fair estimate that every present APA member owns about $70 worth of stock in the corporation. This figure, though it may be impressive to some, is not very realistic. It is in the nature of things that APA stock is not negotiable—nor even pawnable. Perhaps it is a good thing. Some of our more improvident or more disgruntled members might yield to temptation, bringing about a situation in which APA would have fewer psychologists and more palmists and astrologers. We do, as a matter of fact, however, "sell" our stock. To each of the approximately 1,000 people who will become new members in January, 1954, we "sell" a share of APA stock. He will pay a $2 fee for a share worth then about $60.

Enough of commercialization. We still have not confronted the question of what APA membership is worth—in real but non-negotiable terms—to a concrete individual member of the organization. We can see that if a member avidly reads journals, has a vital interest in the problems and projects APA gets itself involved in, and maintains a belief that committees can accomplish something, his membership is a very good investment. But what about the psychologist who does not read journals and has no interest in the sort of scientific and professional problems that are amenable to group attack? We might take the stand that such a person is not really a psychologist and hence should not be of concern to us. But what about the person who reads journals but is opposed to everything else APA does? Or the person who does not read journals but who has a genuine concern for the professional development of psychology?

It is clear that APA cannot hope to be all things to all its members. No organized group, in a world populated by individualists, can satisfy all the needs of all. This is perhaps something to be thankful for. Groups exist because people who constitute them have common interests and some degree of common fate. It is neither necessary nor desirable that there be identity of interest or of fate. Organized groups search for ways to advance widely shared interests without doing insult to the welfare or integrity of those who do not see eye to eye with any given majority or any given segment of the population.

APA's attempts to help all while harming none are made through the efforts of its boards and committees. I would like very much to cite incontrovertible evidence that the results produced by our boards and committees redound to both the negotiable and non-negotiable welfare of our members. I have a faith that they do, but perhaps this is the bureaucrat's great illusion. We cannot now make a hard-headed assessment of the effects of our efforts. But we can examine the quality of the effort. And we can examine the question of whether or not committees are likely to solve problems or satisfy needs or affect the course of our history.

As to the quality of the work done by APA committees, it seems to me remarkably high. The people who serve on our committees work hard and effectively. Some committees perform with more verve and effectiveness than others, because, I think, some problems are both more challenging and more soluble than others. But the average performance, relative to that of any other committees I have known about, seems very high.

I have seen instances in which committees tried valiantly and unsuccessfully to wrestle with an assigned problem nobody regarded as important. And I have seen committees frustrated by a lack of success in defining a problem or in finding handles by which it could be grasped. But such failures should not be blamed on the committees. No one can create cosmos out of chaos if the chaos is insignificant. Nor can anyone do more than reconcile himself to a chaos too chaotic.

I think that there are reasons for the productivity of APA committees. I think I know some of the

reasons. I think the main reason is that our committees are peopled by psychologists—good psychologists. And I think that good psychologists have attributes that are conducive to effective participation in the jobs APA members assign their committees. As a reporter and observer, I can and want to talk about this point.

A large proportion of psychologists are willing—or can pretty easily be made willing—to accept a concern for the welfare of other people and, once they accept responsibility, they handle it both with vigor and with great skill. In all the APA boards and committees I have known about I have observed remarkably few instances in which the personal and more or less petty needs of an individual member seemed close to cluttering up the work of the committee. In the few instances I do know about, the other members of the committee in each case gently encapsulated the pained individual and went on about their proper business. I have never observed any nonfunctional hierarchicality in an APA committee. Anybody who has an idea can speak his piece and his performance is judged by the quality of his idea, not by the magnitude of his rank. I have never seen a chairman even try to dominate a group. I have never seen a chairman demonstrate the sort of ineffectual leadership that might be termed neurotically nondirective. Nor have I seen an instance in which a chairman has tried to seduce a group by applying the slick techniques of skin-deep democracy. If this ever happens I have confidence that psychologists can see through and contend with even the cleverist form of this latter-day Machiavellianism.

Psychologists communicate very well with one another, both at the cortical and at the thalamic level. They see the problem clearly and are able to articulate their notions about it. They have feelings, too, about problems. These they can express without either rising to the violent or sinking to the maudlin.

And psychologists listen to one another. When a member of a committee is talking, particularly if he is talking to the point, other members actually pay attention rather than use the occasion as an opportunity to marshall their own ideas for a return to the fray. Psychologists do not debate. They discuss. Most of them must have had college training in the Philologian Debating Society or its equivalent, but they have recovered. They do not take spur-of-the-moment stands to be defended with misplaced valor against all onslaughts of logic or evidence. They discuss. They take tentative positions, they are open to evidence, they have a tolerance for that intelligent and informed confusion out of which sound, and democratic, solutions arise.

Psychologists are bright. Some are probably brighter than others but in the area of the curve we are dealing with, we sort of have to say that all psychologists are equally bright but some are more equally bright than others. To see six or eight very intelligent people tear with enthusiasm into a complicated problem and to see the native intelligence of individuals somehow enhanced by the social pooling thereof is always a thrilling experience and one conducive to a general faith that mankind can, after all, somehow solve the problems confronting the world.

And psychologists almost always enjoy working on APA committees. They would regard it as neurotic to admit it and they may engage in some ritualistic grousing about committee work. But APA committees in session look as if they enjoy themselves. Human interaction is rich and humor is generally good.

All this sound like either a love letter to our board and committee members or a recruiting campaign. Perhaps it is a little of both. But the point I am trying to make is that APA members get very conscientious, intelligent, and creative service from the various segments of their government. I am ready to accept the statement that the $1.50 per member spent on board and committee expenses in 1952 represents the best investment the average citizen of APA possibly could have made during that year.

"All right," I can hear someone say, "so our committees get sucked in by APA and put up a show of working hard. So what? What do committees actually do that amounts to anything?"

This is a disagreeable question, but one that should not be dodged. One can get the impression, if he works at it, that organized life in America is literally infested with committees—committees that flit and flutter about the bodies politic, contemplating their own group-dynamical navels and existing principally to ensure their own continuation while the inexorable pressure of history, which committees wist not, keeps the world on its uneven course.

If one could extirpate the sourness from such a statement, there might be an element of truth left.

People do get themselves on committees for reasons other than a burning desire to solve the ostensible problems. But this fact need have nothing to do with anything. The performance of either committees or individuals can be *explained* in terms of motivations, but it somehow seems very unfair to *evaluate* human behavior in terms of the motives producing it. Arguments are logical or illogical, recommendations are sound or unsound, solutions are either feasible or not—all on their own merits.

And it may be true that neither committees nor bureaucracies have the effect on history they like to feel they do. We can make a case that what has happened and what will happen to American psychology is, in large measure, the outcome of trends and events over which neither committees nor APA nor psychologists have great control. But such an argument can be carried to a ridiculous defeatist, or at least passive, extreme. The social environment has a mighty influence on psychology, but psychologists also have influence on the social environment. It seems reasonable to believe that though neither a committee nor the whole structure of APA can fully determine the course of our history, a committee can, if backed up by psychologists, often turn the course of history a few degrees this way or that, making our future conform a little more to our aspirations and desires. And it is clearly conceivable that in a few crucial instances, where social and economic forces are in such balance that history could proceed in almost any direction, the discriminations and influence of a committee can have a 180-degree effect on the course of events.

I would like to distill from these cloud-high generalizations at least a few drops of evidence bearing specifically on our own problems. I will not try. It would take up a lot of time, even if it could be convincingly done, and it would also probably stir up pointless disagreement. Where we have a diversity of psychologists with a diversity of interests and motives, where one member's Mede is another's Persian, the problems attacked by one committee will be regarded as inconsequential by somebody. Not all U. S. citizens are equally excited by REA or CCC or JCS or Point 4. But both the national government and APA must respond to the legitimate problems of any appreciable segment of the population, and must act on the general assumption that, in the long run, the welfare of any citizen is related to the welfare of all citizens. Of course things work better if APA and its committees can attack problems of relevance to general interests and general motives. Taking a cue from a high Washington official, I make the observation that what's good for General Motives is good for APA.

I still am stuck with the conviction that any member has a bargain if he is interested in any one of the hundreds of problems our boards and committees deal with, for he has intelligent and conscientious people thinking, investigating, and discriminating in his behalf, and he has an inalienable right to accept or reject committee solutions if he does not like them.

Many of these paragraphs sound like ones spoken by the town manager of Short Pump, Virginia, in an effort to convince the citizenry that his term of office has been a fruitful one. Probably some such tendency has crept in here and there. It is true that at the drop of a hat I will talk at great length about what seems to me the more than mildly fabulous work that George Albee, Lorraine Bouthilet, Jane Hildreth, Bruce Moore, and recently Richard Willey have done in the Central Office. And at the drop of a hint I will tell any dues-paying member how hard and assiduously the Executive Secretary, under the demanding hand of a conscientious and concerned president, has labored. But when one backs off a way from any viable and democratic organization, he almost inevitably must come to the conclusion that no bureaucracy is of crucial importance. It can have, within fairly narrow limits, either facilitating or debilitating effects on the efforts of boards, councils, and committees chosen to represent the members. Those of us who work in the Central Office hope we are facilitators. But we know it is impossible to facilitate something that isn't there.

I think the objective observer, with no prompting or proselyting at all, would see APA as a sound, stable, progressive, functional, and democratic organization. I think the objective observer might well also say that we have not yet found the best of all possible ways of capitalizing on our size and our stability so that most members derive most benefit with least encroachment on anybody's individuality. If the objective observer were not objectionally objective, he might also conclude that psychologists, of all people anywhere, have the best chance of creating and maintaining such an organization.

Comment

Loyalty Oaths and Anti-Intellectualism

Concurrently with the May 1953 issue of the *American Psychologist* containing the views of the Board of Directors of APA on the growth of anti-intellectualism in America, a particularly dangerous expression of this trend appeared in an article by J. B. Matthews entitled "Communism and the Colleges" in the *American Mercury*.

Matthews mentions by name 25 psychologists (among other educators and scientists), many of whom are well known and respected by all of us, and accuses them of being one or more of the following: dues-paying members of the Communist Party, fellow-travelers, espionage agents, adherents of the party line in varying degrees, or unwitting dupes of subversion.

The reasons stated for listing these psychologists are familiar. They vary from sponsoring a conference for peace, affiliation with the American Association of Scientific Workers, affiliation with other so-called communist front organizations (unnamed) to signatures on a statement protesting the dismissal of Ralph Gundlach from the University of Washington.

The article is significant in that it accuses a number of leading officials of APA and some of the most prominent psychologists in America of subversion. It is another manifestation of a highly organized campaign to widen the investigations and to stifle independent thought by instilling fear among the rest of us. The aim of the campaign, if we are to judge by Matthews' own words, is either to impose a political, educational, and philosophical orthodoxy on the intellectual and cultural life of America, or, failing this, to destroy the educational system itself. Matthews in his article states: ". . . If all the colleges and universities in the United States had been closed for the past thirty five years, there is no reason to believe that our national situation would be any the worse, insofar as an intelligent approach to the problem of communism is concerned. In fact, a case can be made for the argument that we would be in a much better position in this respect, if they had been closed."

That this article is an attack upon the individual scientist's right to freedom of inquiry and freedom of speech is evident. If it succeeds, the reputation of none of us, to say nothing of our jobs, will be safe.

What should APA and its members do to combat this anti-intellectualism? More research should certainly be undertaken by clinicians and social psychologists to understand better the nature of the pathology of which Matthews is a victim, and the times which seem to call it forth. But beyond this, we recommend that APA undertake preventive measures by publicly stating that it is prepared to utilize all its resources in advance of any investigations to defend all psychologists who are attacked for their political views, whatever these may be. When Representative Harold Velde proposed an investigation of the churches, organized religion counter-attacked and forced him to back down. This attack upon science and education can be similarly defeated provided we act concertedly and in time.

LEONARD H. COBRINIK, MARTIN L. FISCH, SEYMOUR LEVY, PHILIP LICHTENBERG, FLORENCE ROMM, and SIDNEY RUDNER
New York, New York

On "Teaching Methods Research"

This is an addendum to L. G. Wispé's "Teaching Methods Research" (*Amer. Psychologist*, 1953, 8, 147–150). The point singled out for attention is the question of criteria with which to judge the effects of the independent variables in such research.

One may draw the implication from Wispé's article that the only possible useful criterion is "students' performance on some test of course-related material." It is suggested that there are also other dependent variables which should be added to (not substituted for) that. In fact, there is reason to believe that course examinations are not at all useful as dependent variables in teaching methods research because, no matter what the teaching method may have been, students have a tendency to go off in a corner and study the book in the traditional manner when preparing for examinations. On this point see, e.g., W. J. McKeachie's symposium paper read at the 1950 APA meeting, "Research on Teaching."

Probably no one would admit publicly that the aims of his course in psychology are confined to teaching "course-related material." We prefer to talk about developing critical thinking, promoting insight into human behavior, teaching students the value of psychology, and so on. It might be better, therefore, to describe ultimate criteria or dependent variables in these terms, with cognitive changes in the realm of psychological facts and principles as merely the proximal aim. One main difficulty with this recommendation is that few teachers are really satisfied with their own set of aims, nor are they satisfied that the aims are stated in operational terms so as to offer any possibility of being tested. The undersigned is happy to be able to remind readers that questions of aims and criteria have been under discussion at recent APA meetings under the sponsorship of the Committee on Research of the Divi-

sion on the Teaching of Psychology, and to say that an investigation of the present aims of psychology teachers is now being planned by the Committee and the Education and Training Board, under the National Science Foundation research grant to the APA.

Another main difficulty with the above recommendation as to ultimate criteria is that even though aims were operationally stated and widely accepted, there are few if any extant methods of testing changes in habits of thinking, in motives, in attitudes—certainly nothing like our competence in testing memory, immediate and delayed. Perhaps the immediate focus of some large amount of research in this field should be on developing such measuring instruments. If successful, the instruments would be of incalculable assistance in research and would make us popular with our academic colleagues whose aims are, in the long run, the same sorts of things as ours; which is as it should be. And if the psychologists on the faculty cannot and do not develop the measurements, other academicians will try to do so, and will almost undoubtedly do a poorer job than would the psychologists—or so at least most of the subscribers to this journal will agree.

WILBERT S. RAY
for the Committee on Research, Division on the Teaching of Psychology

Figures on Charlatanism

I have been increasingly concerned about a set of "data," alleged to eminate from the APA, regarding the extent of charlatanism in psychology in the U. S. I have traced the figures to their source and found that a New York *Herald Tribune* writer obtained an "estimate" from a psychiatrist who had done no research in the field. This "guess" has been published in APA papers as authentic and is now, in turn, being quoted by laymen as authentic. I think this should be brought to the attention of psychologists since even "research" is now being based upon these hypothetical figures.

In the April 1953 *Brief* magazine there is an article called "Psycho-Quack" which states "The American Psychological Association estimates there are at least 25,000 charlatans at large who, for a fee, offer to help you overcome fear and worry, show you how to get a better job or solve your marital problems. These quacks, declares the APA, milk the public of more than $375,000,000 annually!"

At a time when psychologists are attempting to establish themselves in the minds of the general public as serious scientists, I would doubt the wisdom of releasing figures which seem to me to be pure figments of imagination. These figures are no more accurate than the practices of the so-called "quacks" we are condemning.

This note constitutes a plea to refuse to give to popular writers any figures in this area which allege to be authentic. There just are no such figures, in spite of the fact that one of our major colleges recently released quite a piece of "research" for a major magazine based upon this swampy premise.

LEE R. STEINER
New York City

Reprints and Journal Subscriptions

What is the purpose of reprints? Is it the professional responsibility of authors to supply reprints to anyone who asks for them without explaining who they are and why they want the reprints? A writer spends a great deal of time preparing a paper for publication, and often has to pay part of the expense of publication. After the paper is published, many people do not bother to get the journal—they just go through the abstracts, get the addresses of the authors, and send out post cards requesting reprints. By doing this they establish a complete library without the expense of subscribing to journals.

Many psychology departments have printed post cards which seem to be used indiscriminately. They request reprints as if they are ordering something from a business firm. I do not believe it is the writer's duty to supply reprints freely to everyone who asks. Psychology departments should have enough copies of the journals in their libraries for reference use. Students should be encouraged to buy issues containing the articles they need or to subscribe to the journals at student rates.

When reprints are requested, the request should be made in a personal letter and stamps or money to cover mailing costs should be enclosed. Receipt of the material should be acknowledged with thanks.

A reprint can be very helpful to someone who is doing research, especially if the journal in which the article appeared is out of print or not readily available. In that event, an author will usually be glad to send a reprint.

I believe that if people had to pay for reprints they would order fewer of them and buy more journals.

ROSE ZELIGS
Sherman Oaks, California

Psychological Notes and News

Wainwright D. Blake, associate professor of psychology at Bucknell University, died of a heart attack on October 3, 1953.

Géza Róheim, New York City, died in June, 1953.

Blair K. Schwartz, Birmingham, Michigan, died January 17, 1953.

Arthur Steinberg, clinical psychologist on the staff of the VA Regional Office, Boston, Massachusetts, died of Hodgkin's disease during the month of September.

Edward C. Tolman has been elected co-president of the Fourteenth International Congress of Psychology, to be held in Montreal in June, 1954.

Samuel P. Hayes, Jr., formerly head of the Far East Programs of the Foreign Operations Administration, has been named the first director of the Foundation for Research on Human Behavior, Ann Arbor, Michigan. The aim of the new foundation is to increase the scientific knowledge of human behavior, and to promote the use of this knowledge by industry, government, and social welfare agencies.

Eleroy L. Stromberg, formerly chairman of the psychology department at Western Reserve University, has recently accepted the position as manager of training and personnel research for the B. F. Goodrich Corporation, Akron, Ohio. An honorary degree of Doctor of Laws was presented to Dr. Stromberg by Baldwin Wallace College of Berea, Ohio, at the June 1953 commencement.

J. E. Hulett, Jr., associate professor of sociology at the University of Illinois, has been appointed chairman of the department of sociology and anthropology of the University.

Edward C. Glanz, formerly director of student personnel at Quinnipiac College in New Haven, Connecticut, is now associate professor and chairman of the guidance department at Boston University Junior College.

W. D. Neff, associate professor of psychology at the University of Chicago, has been granted a leave of absence from October, 1953 to October, 1954 to accept an appointment as psychologist attached to the Branch Office of Naval Research in London.

William R. Morrow, formerly assistant professor of psychology at Western Reserve University, has been appointed assistant professor of psychology at Bard College, Annandale-on-Hudson, New York.

Robert Jacobs, formerly director of counseling and professor of education at the A & M College of Texas, has returned to the Educational Records Bureau, New York City, as assistant director.

Albert E. Hickey, Jr., formerly with the psychology section, Boston University Physical Research Laboratories, is presently on active duty as lieutenant, USNR, in the Human Engineering Section, Physiology Branch, Office of Naval Research, in Washington, D. C.

Jack C. Dinger has resigned as director of psychological services at the Polk State School, Pennsylvania, and has accepted the position of school psychologist and supervisor of special education with the School District of Altoona, Pennsylvania.

David M. Friedland is now the psychologist at Berkshire Industrial Farm, Canaan, New York.

John E. Casey is now assistant professor of psychology and guidance at Colorado State College of Education at Greeley.

Robert Tyson, of Hunter College, has accepted the invitation of *The Journal of Education*, recently acquired by Boston University, to serve as a contributing member of its Advisory Board.

C. E. Hamilton, formerly at Alfred University, New York, is now at Wayne University. Dr. Hamilton replaces James C. Reed as reading and study skills counselor during the current year while Mr. Reed is at the University of Chicago.

Mildred E. Katzell, formerly with Macy's in New York City, and Helen Virginia Meharg, formerly on the staff of the Prudential Insurance Company, New York, have been appointed to the staff of the National League for Nursing.

Sidney Rosenblum has been appointed director of the psychology department at the Wayne County Training School. He succeeds **Z. Pauline Hoakley**, who retired in August 1953 after 27 years of service. **Charles Spital** has also joined the staff as Psychologist I.

Robert D. Dugan, formerly a research associate and instructor in the department of psychology at The Ohio State University, has recently taken a position as research associate in the personnel research department of the Commonwealth Life Insurance Company in Louisville, Kentucky.

Rita P. Underberg, formerly clinical psychologist at St. Lawrence State Hospital, is now a VA trainee at the University of Rochester.

Jack N. Peterman has transferred from the Human Factors Operations Research Laboratory, Washington, D. C., to the Technical Training Research Laboratory, Chanute Air Force Base, Illinois, as chief of the Operational Utilization Branch of the Audio-Visual Research Division.

The Personnel Laboratory has announced the addition of **Thelma Gordon** to its New York staff of clinical psychologists.

Walter Gruen, formerly assistant professor of psychology and labor and industrial relations at the University of Illinois, has been appointed research associate, with rank of assistant professor, in the Committee on Human Development, University of Chicago.

Clement J. Gresock has been appointed instructor in the department of psychology and psychiatry at the Catholic University of America.

G. Hamilton Mowbray has recently joined the staff of the Applied Physics Laboratory of The Johns Hopkins University, in Silver Spring, Maryland, as a research psychologist.

James L. Morey, formerly research psychologist at the Mt. Holyoke Psychophysical Research Unit, South Hadley, Massachusetts, has been appointed assistant professor of psychology at the University of Utah.

Hardy C. Wilcoxon, of the Psychological Corporation, has been appointed assistant professor at the University of Arkansas.

Marvin Reznikoff has resigned as staff psychologist at the Neurological Institute, Columbia Presbyterian Medical Center, to accept an American Cancer Society research fellowship at Yale University.

Oscar S. Adams and **Richard C. Goodling** have been added to the staff of the department of psychology at Emory University. Mr. Goodling holds a joint appointment in psychology and the University testing and guidance service.

Arden C. Eichsteadt, formerly assistant professor of education at Butler University, Indianapolis, Indiana, has been appointed assistant professor of student personnel services at the University of Wisconsin Extension Division, Milwaukee, Wisconsin.

The department of psychology at **Pennsylvania State College** has added Francis L. Whaley, from the University of Michigan, and Richard P. Barthol, from the University of California, to the departmental staff. Other personnel changes consist of the promotions of John F. Hall and George M. Guthrie to associate professor and Lester P. Guest to professor.

The department of psychology at **Michigan State College** has announced that during the summer J. J. Gallagher taught at the University of Illinois, and D. M. Johnson at San Diego State College. During the present academic year H. H. Anderson will have a Fulbright research grant in Frankfurt, Germany; F. R. Wickert, on sabbatical leave, will have a Fulbright teaching grant in Graz, Austria; Milton Rokeach, on sabbatical leave, will be a Social Science Research Council Fellow in London, England; and M. R. Denny will be on sabbatical leave in Majorca, Spain. Dr. Johnson will act as head of the department in Dr. Anderson's absence. New appointments are Frank du Mas, assistant professor, and Paul Bakan, Allen Calvin, and James Straughan, instructors.

The **University of North Carolina** has recently added several psychologists to the staff of the departments of psychology and psychiatry. George S. Welsh, formerly chief psychologist at the Oakland VA Hospital, is associate professor of psychology and for the current academic year is coordinator of the training program in clinical psychology. W. Grant Dahlstrom, formerly on the staff of

the department of psychology at the State University of Iowa, is also associate professor of psychology and is director of psychological services in the University's new Memorial Hospital. June Chance, who had been research psychologist at the Columbus Receiving Hospital, The Ohio State University, has been appointed assistant professor of psychology. Emmett Earl Baughman, who is currently in charge of the clinical training program at the University of Wisconsin, has accepted a position at the University of North Carolina as associate professor in psychology to begin in September, 1954; he will be coordinator of the clinical training program for the year 1954–55.

The psychology department of the **University of Buffalo** has announced the appointments of Egan A. Ringwall as director of the psychological clinic; and Marvin J. Feldman as director of the clinical training program. Arnold Meadow has been promoted to an associate professorship in psychology.

This department has announced that it will accept a limited number of graduate students (MA and PhD) for the second semester of the current year. A few assistantships will be available for qualified applicants. Applications must be submitted to the department chairman by December 1, 1953.

New members of the staff of the department of pyschology at **Brooklyn College** for the present year include Bernice Gurvich, David F. Kahn, E. T. Prothro, and Sheldon S. Zalkind.

The department of psychology at **Springfield State Hospital**, Sykesville, Maryland, now consists of Julian Abrams, William H. Guy, Mark Isaacs, and Donald S. Milman, staff psychologists; Thomas Beckett, Marvin Daniels, Melvin Gravitz, Jack Kutzin, and Bob Maslow, psychologist interns, and Michael H. P. Finn, chief.

The Southeast Louisiana Hospital, Mandeville, Louisiana, has announced the appointments of **Thomas W. Howard** as a staff clinical psychologist and **H. Donell Miller** as a fellow in clinical psychology.

Rohrer, Hibler & Replogle has announced the appointment of **Edward L. Adams, Jr.**, to the staff of the New York office effective October 1, 1953.

Four psychologists have recently been added to the staff of the **Harris-Spencer Company**, a division of Science Research Associates, Inc. They are Bill L. Kell, formerly assistant professor of educational psychology at the University of Texas; E. H. Porter, Jr., formerly associate professor of psychology and research associate at the University of Chicago; Louis Checov, formerly research associate, Instructional Film Research Program, Pennsylvania State College; and Frank McCabe, formerly instructor in psychology at Fordham University. Frederick Gehlmann, vice-president of Science Research Associates, is director of psychological services.

Ledford J. Bischof, formerly on the staff of the department of guidance and special education, has been transferred and is now associate professor in the department of psychology of **Southern Illinois University**. Other members of the staff are Forrest B. Tyler, Leslie F. Malpass, William C. Westberg, and Noble H. Kelley, chairman.

Human Resources Research Institute, Maxwell Air Force Base, Alabama, has announced that C. A. McMahan, formerly associate professor of sociology at the University of Georgia, has been appointed chief of its Manpower Research Division. Robert W. Hites, formerly with the Personnel Research Board, Ohio State University, has joined the staff of the Human Relations Division. Egerton L. Ballachey has been granted a one year's leave of absence from the faculty of the department of psychology, University of California, to serve as chief of the Officer Personnel Research Division. Other members of the research staff of this division are: Norman C. Dow, Ernest L. McCollum, Arthur E. Eschenbach, Edwin F. Harris, Jacob V. Golder, Clarence A. Johnson, and Cecil R. Wurster.

The Fresno State College has announced the following staff changes: M. Bruce Fisher has taken a one-year sabbatical leave and is doing research at the Harvard University School of Public Health. His position is being filled by Joseph Fortier. Stanley E. Lindquist, Jesse Harvey, and Reuben Swartz have been added to the staff this year.

The all-university psychology department at **Syracuse University** has appointed five new members to its faculty: Wallace R. McAllister, Matthew J. Wayner, and Joseph Masling, assistant profes-

sors, and George G. Stern and Francis J. DiVesta, associate professors. Dr. DiVesta has a dual appointment between the School of Education and the psychology department.

VA Department of Medicine and Surgery Announcements

Clinical Psychology

Richard S. Ball has transferred from VA Center, Bay Pines, Florida to VA Hospital, Brockton, Massachusetts.

Roger B. Bernhardt, a graduate of the VA Training Program, University of Michigan, has been appointed to the staff of VA Hospital, Buffalo, New York.

Jack Blumenkrantz, a graduate of the VA Training Program, University of Colorado, has been appointed to the staff of VA Hospital, San Francisco, California.

Seymour I. Canter has resigned from the staff of VA Regional Office, New York, New York, to take a position in a private hospital in New Jersey.

Richard H. Dana, a graduate of the VA Training Program, University of Chicago, has been appointed to the staff of VA Hospital, Denver, Colorado.

George W. Fairweather, a graduate of the VA Training Program, University of Illinois, has been appointed to the staff of VA Hospital, Houston, Texas.

Robert C. Kammerer has been appointed to the staff of VA Center, Jackson, Mississippi.

Julian J. Lasky has transferred from VA Hospital, Dearborn, Michigan, to the position of Chief Clinical Psychologist, VA Hospital, Ann Arbor, Michigan.

Harold A. Levine, a graduate of the VA Training Program, Teachers College, Columbia University, has been appointed to the staff of VA Hospital, Northport, New York.

Luther L. Mays has returned to the VA as chief clinical psychologist, VA Hospital, Washington, D. C., after a tour of duty with the Army as chief clinical psychologist at Fitzsimons Hospital in Denver, Colorado.

Irving Raifman has transferred from VA Hospital, Washington, D. C., to the staff of the Naval Medical Center, Bethesda, Maryland.

Gerald A. Reynolds, a graduate of the VA Training Program, Purdue University, has been appointed to the staff of VA Hospital, Houston, Texas.

Harold Sampson, a graduate of the VA Training Program, University of California, has been appointed to the staff of VA Regional Office, San Francisco, California.

Stanford H. Simon has transferred from VA Hospital, Indianapolis, Indiana to VA Hospital, Tomah, Wisconsin.

Marvin S. Weinstein, a graduate of the VA Training Program, Western Reserve University, has been appointed to the staff of VA Regional Office, Phoenix, Arizona.

Counseling Psychology

Andrew S. Dibner, a graduate of the VA Training Program, University of Michigan, has been appointed chief of the Vocational Counseling Service, VA Hospital, Dearborn, Michigan.

Harold J. Palmer, formerly director, Cornell University Counseling Service, has been appointed chief of the Vocational Counseling Service, VA Center, Bath, New York.

Herman J. Schubert, a graduate of the VA Training Program, Western Reserve University, Cleveland, has been appointed as chief, Vocational Counseling Service, VA Hospital, Buffalo, New York.

Bartley E. Bess, Jr., a graduate of Texas Technological College, Lubbock, has been appointed to the staff of the VA Center, Wadsworth, Kansas.

The Research Center for Human Relations at New York University has received a grant of $5,000 from the Ford Foundation. The Center specializes in social psychological research, and its activities include both field and laboratory studies.

Clark University has received a two-year grant from the Behavioral Sciences Division of the Ford Foundation for an interdisciplinary research and study project concerned with psycholinguistic processes involved in the use and comprehension of metaphorical and figurative language. The project is co-directed by Heinz Werner, department of psychology, Richard Reid, department of Romance languages, and William Carter, department of English. Bernard Kaplan has been appointed research associate in this project for the period 1953–55.

Several **postdoctoral fellowships for research** in personality are offered by the University of Illinois under a grant from the Ford Foundation.

These postdoctoral fellowships ($4,500) offer an opportunity for study and research either independently or in collaboration with staff members in social anthropology, education, psychology, and sociology. The program is under an interdisciplinary committee from these fields with Lyle H. Lanier as chairman. Inquiries should be directed to Dr. J. McV. Hunt, Department of Psychology, University of Illinois, Urbana, Illinois, administrative secretary of the program. The committee would like to receive applications by February 1, 1954. Anyone wishing to be considered for a fellowship for 1954–55 must have his application completed by February 15, 1954. The committee hopes to notify applicants of awards by April 1, 1954.

The National Research Council of the National Academy of Sciences is now accepting applications for postdoctoral fellowships in the natural sciences including psychology for the 1954–55 academic year. These fellowships are open to citizens of the United States and Canada. A fellowship applicant must choose an institution other than that at which he has had most of his academic training. Applications must be postmarked on or before December 10, 1953. Fellowships are awarded in the late winter or early spring. Complete details and application blanks may be obtained from the Fellowship Office, National Research Council, 2101 Constitution Avenue N.W., Washington, D. C.

The closing dates for receipt of applications for **National Science Foundation fellowships** are December 15, 1953, for postdoctoral applicants, and January 4, 1954, for graduate students working toward advanced degrees in science.

National Science Foundation fellowships are awarded to American citizens who will begin or continue their studies at the graduate level in the mathematical, physical, biological, medical, and engineering sciences during the 1954–55 academic year.

Selections will be made solely on the basis of ability. The majority of the fellowships will go to graduate students seeking master's or doctor's degrees in science, although a limited number of awards will be made to postdoctoral applicants. Graduating college seniors in the sciences who desire to enter graduate school are encouraged to apply for the awards.

The annual stipends for fellowships will vary with the academic status of the Fellows, from $1,400 for first-year Fellows, students entering graduate school for the first time or those who have had less than one year of graduate study, to $3,400 for postdoctoral Fellows. Dependency allowances will be made to all married Fellows. Tuition and laboratory fees and limited travel allowances will also be provided. Applications may be obtained from the Fellowship Office, National Research Council, Washington 25, D. C., if they are not available in the office of university presidents, deans, or department heads.

The closing date for applications for **Social Science Research Council research training fellowships**, undergraduate research stipends, faculty research fellowships, and grants-in-aid of research will be Monday, January 4, 1954.

Inquiries should be addressed to the Washington office of the Social Science Research Council at 726 Jackson Place N.W., Washington 6, D. C., and not to the Council's headquarters in New York.

Psychologists associated with colleges of medicine held a symposium discussion during the recent meetings of the APA. As a result of this meeting and previous meetings, plans are being laid for a national conference under the general heading of "The Roles of Psychologists in Medical Schools." Any psychologist associated with a college of medicine may be included on the mailing list by writing to Dr. W. W. Morris, Assistant Dean, College of Medicine, State University of Iowa.

The psychology department of Crownsville State Hospital will hold its second Annual Workshop November 19–21. This will be a **workshop in the Rorschach** technique, conducted by Marguerite R. Hertz, associate clinical professor at Western Reserve University. Dr. Hertz will give a brief review of research in the Rorschach method, but most of the time will be spent in dealing with advance interpretation of Rorschach records. The registration fee is $10.00. For further information write to Vernon W. Sparks, Acting Chief Psychologist, Crownsville State Hospital, Crownsville, Maryland.

The Richmond Professional Institute, in cooperation with Westbrook Sanatorium, will sponsor a

Rorschach Workshop to be given by Zygmunt A. Piotrowski on December 7–13 in Richmond, Virginia. The workshop will cover history, theory, administration, scoring, and interpretation of the Rorschach test, differential diagnosis of different types of behavior pathology, and actual case presentation. For information and registration write to V. J. Bieliauskas, Director, School of Clinical and Applied Psychology, Richmond Professional Institute, Richmond 20, Virginia.

Personnel Research Consultants, selection and placement specialists, has been formed in Dallas, Texas, to serve industry in the Dallas and North Central Texas area. Bernard Hanes is executive director.

A grant by the Louis W. and Maud Hill Foundation of St. Paul has made possible the formation of the **Minnesota Center for Philosophy of Science**, which is administratively a department of the University of Minnesota in Minneapolis. The present research staff includes Herbert Feigl, director, Wilfrid Sellars, Paul Meehl, and Michael Scriven. Research on the logical and methodological structure of psychology will be undertaken this year; possible areas for future study include the foundations of probability and induction, and conceptual problems of physics, biology, and the social sciences. There will be a number of small conferences to which scholars from other universities will be invited.

There is an informal group of clinical psychologists who meet monthly in **Baltimore, Maryland.** Interested persons are invited to attend. For further information write to Mr. Lloyd Schwartz, Spring Grove Hospital, Catonsville, Maryland.

The Eleventh International Congress of Psychotechnique was held in Paris from July 27 to August 1, 1953. H. Piéron was honorary president of the Conference, and R. Bonnardel, president. Of the some 700 people in attendance the vast majority came from western European countries, some dozen or so from the United States, and one from Japan. A comprehensive report of the Congress is currently in preparation and should be available in the near future in the *Bulletin de l'Association Internationale de Psychotechnique*. The president-elect of the Association is Clifford B. Frisby, director of the National Institute of Industrial Psychology in London. The next meeting of the Association is to be held in London in the summer of 1955.

Reprints of articles which have appeared in past issues of APA journals are now obtainable through the Central Office in quantities of fifty or more. Heretofore reprints of articles could not be ordered after the journal had been printed. The new reprints are made by a photographic process which is less expensive than ordinary photo-offset. The cost of the reprints is $1.75 per page for 50 copies; $2.00 per page for 100 copies, plus 75¢ per page for additional hundreds. To obtain reprints of articles which have appeared in earlier issues of APA journals, write to the APA Central Office.

The 1953 meetings of the **American Association for the Advancement of Science** will be held in Boston on December 26–31. Section I (Psychology) will meet on December 27–30. Complete details regarding the program may be obtained from the AAAS office, 1515 Massachusetts Avenue N.W., Washington 5, D. C. An outline of the Psychology Section of the program and of other meetings of interest to psychologists is as follows:

Symposium: Part I, Nonhuman Primates and the Problems of Human Evolution; 9:30 A.M., December 27. Arranged by James A. Gavan, Yerkes Laboratories of Primate Biology.

The importance of primate studies to anthropology. E. A. Hooton.

Fossil primates in the new world. Glenn L. Jepsen.

Paleontology of the nonhuman primates of the old world. Bryan Patterson.

Metric and morphologic variations in the dentition of the chimpanzee. E. L. Schuman and C. L. Brace.

A comparative functional analysis of primate skulls by the split-line technique. Neil C. Tappen.

Comparative anatomy of new world primates and its bearing on the phylogeny of men and anthropoid apes. G. E. Erikson.

Human blood group factors in lower primates. A. S. Wiener.

Primate evolution from the viewpoint of comparative anatomy. D. D. Davis.

Symposium: Part II, Nonhuman Primates and the Problems of Human Evolution; 2:00 P.M., December 27.

Some tentative generalizations on the grouping behavior of nonhuman primates. C. R. Carpenter.

Problems of mental evolution in the primates. H. W. Nissen.

Motivation and learning in primates. H. F. Harlow.

The cultural capacity of the chimpanzee. K. J. Hayes and C. Hayes.

Symposium: Communication Aids for the Blind; 9:30 A.M., December 28. Arranged by Eugene F. Murphy, Veterans Administration. Jerome B. Wiesner, presiding.

Communication by Braille and recordings. Edward J. Waterhouse.

Communication aspects of visual prosthesis with application to stepdown detection. Clifford M. Witcher.

Recent development of travel aids for the blind. Thomas A. Benham and Matthew Conrad.

Discussion. Wallace E. Frank.

General Papers: 2:00 P.M., December 28. Edward M. Bennett, presiding.

An analysis of the dimensions of perception: a factor analysis of repeated responses to selected cards of the Rorschach test. Howard Brand.

The relation of Rorschach test ratios to brain injury. Ralph Reitan.

Activity levels of young chimpanzees and human psychotic subjects during time-sampling sessions with and without a partner. Elaine F. Kinder.

Effort, emotion and coronary heart disease. Edmund Jacobson.

Quantitative changes in respiratory movements as a function of noxious stimulus intensity. Michael Kaplan.

Physiological damage under emotional stress as a function of early experience. Otto Weininger.

Invited Papers: Experimental Approaches to the Study of Brain Function; 9:30 A.M., December 29. Arranged by Walter A. Rosenblith, Massachusetts Institute of Technology. Walter A. Rosenblith presiding.

Differential effects of anesthesia on the several sensory systems in the brain. Mary A. B. Brazier.

Comparative studies on afferent and efferent localization patterns in the cerebral cortex. Clinton N. Woolsey.

Studies of brain physiology in relation to the adrenal cortex. Hudson Hoagland.

The role of intrinsic cerebral systems in behavior. Karl H. Pribram.

Effects of brain injury in man. Hans-Lukas Teuber.

Discussants: Robert S. Morison and George A. Miller.

Invited Papers: Comparative Studies of Social Behavior; 2:00 P.M., December 29. Arranged by Burton S. Rosner, Yale University. Burton S. Rosner presiding.

Courtship behavior of invertebrates with special reference to *Drosophila*. Herman T. Spieth.

The courtship and territoriality of the lower vertebrates. Llewellyn T. Evans.

The ethological approach to social behavior in birds. William S. Verplanck.

Some comparative aspects in the social behavior of nonprimate mammals. Nicholas E. Collias.

Behavioral dynamics of free-ranging primates. C. R. Carpenter.

The cross cultural approach to human development. John W. M. Whiting.

Invited Papers: Human Engineering and Information Theory; 9:30 A.M., December 30. Arranged by Leonard C. Mead, Tufts College. Leonard C. Mead presiding.

Information theory as a model of the organism and as an analytical tool for research. William McGill.

Information theory and visual displays. Wendell R. Garner.

Information theory and display-control relationships. William D. Garvey.

Information theory and man-machine systems. Gilbert K. Krulee.

Invited Papers: Sensory Processes; 2:00 P.M., December 30. Arranged by Edwin B. Newman, Harvard University. George A. Miller presiding.

The use of response controlled stimuli in the study of discriminative behavior. Floyd Ratliff and Donald Blough.

Cutaneous vibration and communication. Frank A. Geldard.

The coding of olfactory information. R. M. Hainer and A. G. Emslie.

Methods for constructing scales of loudness and brightness. S. S. Stevens.

Problems inherent in the construction of scales of loudness. Wendell R. Garner.

The size of the DL frequency in hearing and its relation to the method of measurement. Walter A. Rosenblith.

Address: The Individual from Conception to Conceptualization; 4:30 P.M., December 30. Frank A. Beach, President of Section I.

Phi Beta Kappa Address: Science and Social Conservatism; 8:30 P.M., December 30. Leonard Carmichael.

Convention Calendar

American Psychological Association: September 3–8, 1954; New York City

For information write to:

Dr. Fillmore H. Sanford
1333 Sixteenth Street N. W.
Washington 6, D. C.

Southwestern Psychological Association: December 3–5, 1953; San Antonio, Texas

For information write to:

Dr. Wayne H. Holtzman
Department of Psychology
University of Texas
Austin, Texas

Texas Psychological Association: December 3–5, 1953; San Antonio, Texas

For information write to:

Dr. Ernestine B. Blackwell
State Department of Health
Austin 1, Texas

Interamerican Congress of Psychology: December 10–20, 1953; University of Santo Domingo

For information write to:

Dr. Werner Wolff
Department of Psychology
Bard College
Annandale-on-Hudson, New York

American Association for the Advancement of Science: December 26–31, 1953; Boston, Massachusetts

For information write to:

Dr. R. L. Taylor, Associate Administrative Secretary
1515 Massachusetts Avenue N. W.
Washington 5, D. C.

American Society of Human Genetics: December 26–31, 1953; Boston, Massachusetts

For information write to:

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Dight Institute for Human Genetics
University of Minnesota
Minneapolis 14, Minnesota

American Group Psychotherapy Association: January 15–16, 1954; New York City

For information write to:

George Holland, Executive Secretary
American Group Psychotherapy Association
228 East 19th Street
New York 3, N. Y.

Ontario Psychological Association: January 29–30, 1954; Ottawa

For information write to:

E. T. Alderdice, Secretary-Treasurer
100 St. George Street
Toronto 5, Ontario
Canada

Eastern Psychological Association: April 9–10, 1954; New York City

For information write to:

Dr. G. Gorham Lane
Department of Psychology
University of Delaware
Newark, Delaware

Midwestern Psychological Association: April 29, 30, May 1, 1954; Columbus, Ohio

For information write to:

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University of Illinois
1007½ South Wright Street
Champaign, Illinois

Western Psychological Association: May 20–22, 1954; Long Beach, California

For information write to:

Dr. Leona Tyler
Department of Psychology
University of Oregon
Eugene, Oregon

International Congress of Psychology: June 7–12, 1954; Montreal, Canada

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Princeton University
Princeton, New Jersey

FOURTEENTH INTERNATIONAL CONGRESS OF PSYCHOLOGY

Montreal, June 7–12, 1954

The Fourteenth International Congress of Psychology will be held in Montreal, Canada, June 7 to 12, 1954. The Congress is under the direction of the International Union of Scientific Psychology and is sponsored jointly by the Canadian Psychological Association and the American Psychological Association as hosts. Meetings will take place both at McGill University and at the Université de Montréal. The opening session will be on Monday afternoon, June 7.

Membership. Membership in the Congress will be of three kinds. Qualified professional psychologists from all parts of the world may become *Full Members*. Ordinarily they will be members of their respective national organizations in countries where such professional groups exist, but other persons are also invited to write to the Secretary of the Congress if they care to join. Such inquiry should state clearly evidence that the applicant can participate in the Congress with profit. Students who are working for a graduate degree in psychology may enroll as *Student Members*. Wives and other members of the family of any Full Member may be enrolled as *Associate Members*. All members will be privileged to attend the scientific meetings and general social functions of the Congress.

Enrollment. The limited housing accommodations in Montreal make it imperative that an upper limit of 2,500 be set for the membership of the Congress. While it is hoped that all qualified applicants can be accepted, the lists must be closed when this limit is reached. In general, priority will be given to applicants not resident in the United States and Canada. Following this, preference will be given to members of the Canadian Psychological Association and the American Psychological Association. All applications must be received *before March 31, 1954.*

Fees for membership. Membership fees for the Congress have been established as follows:

Full Members, residing in Canada and U. S. A...	$15.00
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Program. The program of the Congress is to consist of formal addresses by leading psychologists, of symposia, and of programs of invited papers organized about a variety of topics of current interest. There is to be no general solicitation of contributed papers. On the other hand, the Program Committee for the Congress will welcome all suggestions as to topics appropriate for presentation or discussion, and the informal nomination of speakers. Such suggestions should be sent at any time to Professor Robert B. MacLeod, Department of Psychology, University of Michigan, Ann Arbor, Michigan.

Special assistance to overseas members. The Committee for the Congress is studying possible means of assisting psychologists at a distance to defray part of the costs of attending. It appears doubtful that any general subvention of the Congress can be obtained, but individual psychologists may be most helpful in calling to the attention of the Committee particular opportunities for summer teaching positions and lectureships. If the means are available, it is hoped that a stipend to defray expenses during actual attendance at the Congress can be offered to overseas members who have no other source of dollar funds. The total sum available will be relatively small and will be used primarily to assist those who can arrange other support for most of their travel expense. Professor Roger Russell, Department of Psychology, University College, Gower Street, London, W.C. 1, England, and Dr. Donald G. Marquis, University of Michigan, will act as a clearing house for information concerning financial support.

Languages. The official languages of the International Union of Scientific Psychology are English, French, German, Italian, and Spanish. So far as possible the sessions will be conducted in French or English.

Request for information. Preliminary inquiries concerning the Congress should be addressed to Rev. Noël Mailloux, O.P., Department of Psychology, University of Montreal, Montreal, P. Q., Canada.

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The Professional Journal of the American Psychological Association, Inc.

Volume 8 December, 1953 Number 12

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Editor: Fillmore H. Sanford *Managing Editor:* Lorraine Bouthilet

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VIRTUE REWARDED AND VICE PUNISHED[1]

RUTH S. TOLMAN

FIFTY or sixty years ago, little boys and girls in New England used to play a game which was called "Newton's New Game of Virtue Rewarded and Vice Punished, for the Amusement of Youth of Both Sexes." It consisted of a series of circular pictures representing the respective virtues and vices. "Sobriety" is a stern and tight-lipped man looking neither to the right nor to the left, turning his back on a great heap of bottles labeled "Demon Rum." "Chastity" is a thinly draped lady sitting all alone under a tree, withdrawn behind her fan. "License" is a confused brawl, with one man in unbridled fury attacking another with a horsewhip; "immaturity" is a gawky-looking adolescent sitting sluggishly in a high chair sucking her thumb; and "sloth" portrays two run-down, disreputable-looking characters, lying lazily under a tree. Now "amity" is represented by two fine, upstanding fellows moving their plows evenly together across a fertile field, leaving behind them two long, neat rows of black, rich, upturned earth.

It is this amity, which might also be called harmony or friendly cooperation, that I should like to discuss. The two men with the plows in our little game will be in psychology the "pure" scientist and the "applied"; or the theoretician and the professional practitioner. I am going to contend that psychology cannot afford to separate these two right now. Physics and engineering can go their own ways, for the two have built up sizable bodies of established theory and of scientifically grounded applications. Perhaps sometime such a day will come, too, in psychology. But now it is far away.

My argument for keeping these two fellows harmoniously together in psychology runs something like this:

1. It tends to be characteristic of the development of many sciences that practice runs ahead of theory. Hence in psychology we should not at this time find grounds for separation in the fact that this lag is occurring and the two are not yet abreast.

2. Theory without the findings of practice, fancy without fact, abstraction without observation, become at the least impoverished and sterile, and often even misleading and distorting. Hence in psychology we should not separate the two but rather try to keep open every line of communication between them.

3. Practice without theory remains an art or a technique and never becomes a science. This is almost too self-evident to need stating. Obviously the aim of keeping the two together is to be able to understand and to predict on a sound and valid basis, whether in the laboratory or in the clinic.

After I have presented my argument, I should like to mention some of the virtues I believe we shall need in order to maintain our life together.

Now for the first point of the argument: Often in a science practice runs ahead of theory. At this point I shall use the words *theory, laws,* and *principles* loosely; later I shall discuss the meaning of theory. There is a wealth of material to illustrate the point that practice runs ahead of theory, as all of you know well. Phoenicians navigated by the stars long before there was a science of astronomy. People used levers in Assyria and in Egypt two thousand years before the days of Archimedes and his theories, and the wheel was invented without benefit of a science of mechanics. The Babylonians developed techniques for solving quadratic equations without a bit of theory. The history of medicine is rich in illustrations. The Chinese wrapped seaweed around the necks of sufferers with exophthalmic goiter; they smashed the teeth of extinct mammals and ground up frogs' legs and fed them to people. Yet nobody had determined the theoretical basis of the body's needs for iodine, calcium, and adrenalin at the times of these practices. In England foxglove was the old wives' remedy for heart disease for many years. Nobody knew it contained digitalis or understood the principles of its action. For centuries sunlight was used as a healing agent for rickets, but it was many years later that the reasons for its action were understood. No one waited for Harvey to discover the principle of

[1] Address of the president of the Western Psychological Association, June, 1953.

circulation of the blood before using the tourniquet to stop a hemorrhage. In the field of biology practical men such as animal and poultry breeders and fanciers, gardeners, and horticulturalists crossed stocks and developed new varieties of beast or fowl or flower or fruit long before the theoretical discoveries of Mendel or Darwin.

We could pile Pelion on Ossa with instances. How did these early practitioners run ahead in this way? Henry Sigerist (26) says that in medicine it occurred by what he calls "instinct." Trial and error entered too, of course, and with developing civilization man learned to differentiate between treatments, became aware of them and passed them on; and thus a body of empirical lore was acquired and became the common knowledge of the group.

Now how does all of this apply to our two plowmen in psychology? I am obviously suggesting that under the pressure of these recent years psychologists have been forced into many practical situations where they had to act, as sensibly and as helpfully as they could, where rapidly they had to develop and apply new techniques and new methods, sometimes drawing heavily on intuition, just as in medicine, according to Sigerist, men relied on "instinct." There was no time or opportunity to discover underlying principles, to make theories, to determine criteria, or to establish validities. It is only by working together, practitioner and scientist, that recent applications in psychology can gradually become part of a body of knowledge. Practice has run ahead. Now we need some time to get the two plowmen together again.

I have said that sometimes psychologists have relied on intuition in running ahead in practice, and I want to digress slightly to put in a plug for intuition in its proper place. I am sometimes impressed by the fact that other sciences have welcomed its fruits more gladly and more tolerantly than psychologists. I have heard physicists laud the "physical intuition" of another scientist, but I have seldom heard psychologists in their role of scientists speak of it with approval. Writers on the history of science picture all findings, garnered empirically, whether products of intuition, instinct, or trial and error, as grist to the mill of the theory-making scientist. It is strange that psychologists, whose job it is to try to understand the various processes by which we arrive at our perceptions and our concepts, feel so reluctant either to accept the output of intuition or to try to investigate the steps of the process. Here is an important piece of unfinished—even unbegun—business for psychology if ever we have the brains and the ingenuity and the willingness to attack it. Perhaps we are now beginning, for Marx (24) in his recent book on psychological theory and Boring (6) in his lecture at the dedication of the University of Texas laboratory have both given intuition its due as one source of constructs and hypotheses.

To move on to the second step of our argument: Theory without the findings of practice or observation, fancy without fact, abstraction without reality, become sterile or misleading. Again the history of science provides abundant illustrations. Consider the elaborate and fantastic theory of astrology. Starting from accidental coincidences, there arose in Babylon a belief that the stars fixed and foretold the course of human affairs. "If Mercury is visible for one month, there will be rain and floods"; "If the sun is darkened on the first Nisan, the king of Babylon will die." The course and outcome of a disease depended on the day of the month it began or on phenomena in moon or planets. There were no definite observed facts to suggest an exact or limited theory in the first place, nor the power of testing by experiment the factual consequences of the theory when framed. The theory of classical numerology, elaborate but completely divorced from and unchecked by observation, is another instance. It was dominant for at least ten centuries. The theory of the four elements, Aristotle's theory of falling bodies, alchemy, the theories of phlogiston, of the luminiferous ether, of animal magnetism, of the caloric fluid, of the geocentric universe, of the music of the spheres as the underlying cause of planetary motion—all of these illustrate the point. The characteristic weakness in all these instances is the lack of pertinent facts. Aristotle, for example, though he had wise things to *say* about passing from the particular to the general, failed to practice what he preached. Taking a few available facts, he would rush at once to the widest generalizations. There were not enough facts on hand. In their absence, the mind became entranced by its own creations, hypnotized by its schemes and its classifications and its theories. These became coercive, mystically authoritarian. Hence they jelled and fixed the classifications and the concepts within which men came to think, and

then there could be no accurate, unprejudiced observation. Because the prevailing theories and modes of thought were authoritarian and unbuttressed by appropriate observations, the structure of the universe had to conform to them and for many centuries they stifled man's efforts in understanding the world.

In our own field, armchair faculty psychology is a case in point. Surely it withered from want of contact with facts and observations. We can say the same of phrenology; of much of the theory of specific nerve energies; of Wundt's chemistry-like brand of elementism in which the atoms were sensations and feelings and images, the molecules perceptions and ideas and more complex combinations; we can say the same of Titchener's theory that the contents of consciousness are basically sensory; of the James-Lange theory of emotion. Surely all would agree that the scientifically useful concepts in psychology are derived ultimately from observations. We have plenty of warnings against *ad hoc* hypotheses and against the "animistic conceptions" which are either inaccessible to tests of observation or else only vaguely related to the behavior variables which they are supposed to explain.

I am not trying to claim that the clinic or other fields of application in psychology are the only sources of facts or observations. But they do provide important samples of behavior. During recent years they have drawn psychology away from its molelike habits, from much burrowing in arid heaps, from long preoccupation with limited and peripheral types of problems. They have significantly enriched the subject matter of the science. Perhaps they have shown us that such problems belong to all psychology, not just to practitioners.

As to the third step in my argument, which, as I have said, hardly needs stating, practice without theory remains an art or a technique or a cult or common sense. It never becomes a science. The recent imbalance in psychology in favor of its professional superstructure has been troubling to many of us during these years of transition and rapid growth since the war. But I believe we should not be too deeply disturbed by this. Ultimately, I am convinced, practice that is not based on knowledge and theory will be unacceptable to us as psychologists. It would be a dour day if our two plowmen should separate and practitioners should lose all concern about the scientific underpinnings of their methods.

While practice and theory are in the process of drawing closer together, it is inevitable that there should be some tension and conflict and even dissociation. Lowell Kelly (17) wrote recently: "Clinical psychologists must become more and more schizophrenic. When functioning as clinicians, they must behave as intuitively and artistically as do psychiatrists, who as Eysenck points out do not have a satisfactory science to apply as yet. When functioning as scientists . . . they should accept the canons of science and act like scientists. This is not to say that one role is more important or better than another, but they should not be mixed *at the same time*." Kelly says "at the same time." He certainly specifies *both* functions. He did not mean that practitioners should stop trying to ground practice validly on scientific knowledge or reconcile themselves to building their houses upon the sand. Nor did he mean, on the other hand, that we should give up the findings and observations that practice yields.

There are great differences in the degree of comfort with which this dissociative or schizophrenic process is achieved by different individuals. I have been interested in making a few local observations in clinicians, especially in students. Some clinicians regard the psychological test, for example, especially the projective test, as a research procedure, subject to the methods and conventions of research; some think of it as an application of already valid knowledge; some like to use it as the most helpful clinical instrument that we have at the moment, but they are frankly tentative and tongue-in-cheek. They hope to study and to validate it outside of working hours, so to speak. It is as if the clinician wears blinders in the clinic or the hospital during office hours. For some the blinders pinch and hurt; they want to tear them off. These people feel constantly bothered and upset by the present scientific shakiness of their position. Others don't mind the blinders. They manage comfortably to keep their two lives separate and to work productively in both. A few, unfortunately, do not care, one way or the other.

Now let us pretend that I have argued so persuasively that all of us have agreed to stay together. What virtues will need to be exercised—and rewarded—in order to do this? There are, I believe,

at least three. And I can see a good deal of evidence that these not only are needed, but also are being exercised gradually more and more. The first of these virtues is industry; then control; then maturity. I shall use each of these names to suit my own semantic needs.

By industry I shall mean active and energetic work in two directions—in fact gathering or observation, and in theory making. I have been using the word *fact* to mean a datum or phenomenon or observation, not as a generalization or confirmed hypothesis. I realize that favoring fact gathering or data collection is an unpopular stand at the moment. The present vogue is against empiricism and for hypothetico-deductive research exclusively —also for model building, which allows maximal degrees of freedom. There was such a period in psychology, too, in the fifteen or twenty years after 1890. Then systems and theories flourished. Now they are crucial again. But I cannot see why we should feel that one approach must exclude the other. In fact, I cannot see how one can believe it possible to separate the empirical from the theoretical in scientific inquiry, and I had thought that any such belief had been exploded long ago. Yet now feeling is running strong on this point. Theorists attack empiricists and vice versa. I am contending for hard work in both of these directions.

All of you will think of many comments on one or the other side of this issue—of the currently popular one, voiced by Leeper and Krech and Spence and Meehl and many others, that we have plenty of facts but insufficient theory; on the other hand, of Warner Brown's and MacKinnon's and others' that we have too much theory and too little fact. Bridgman (7) suggests that the reason science appeared on the human scene so much later than poetry or music is because it required such an enormous background of factual information. It is the fact which occupies the central position in science, and the scientist is its slave. All of us, no doubt, agree with Bridgman's account of the slavery of the scientist to the fact. But some of us have claimed that this hardly applies to the psychologist; that we cannot store up our observations or our data in some form like periodic tables and have them all ready and waiting for a future psychological Rutherford or Bohr to use in theories; or that constructive empiricism is not possible in psychology because we cannot isolate sufficiently simple systems of observation. Others, while not believing this to be impossible, raise the question as to whether the time is yet ripe to begin organizing observations into strict theoretical systems. But both of these need doing and there are many psychologists who want to do each—more than 11,000 even in the APA. Some want to proceed empirically and some want to build theories. This is why I argue for industry along both of these lines. As Boring (6) says, "Among the tough-minded hard-workers let us bless both the factualists, congratulating them on their sanity, and the conceptualists, saluting them for their courage."

Another reason I argue for industry is because there are so many facts we need to know. As Warner Brown (8) pointed out forcibly, we have very unsatisfactory facts concerning the so-called normal human performance or the range of variability even in the simplest and easily measurable functions. Also, there are but few psychological experiments that have ever been repeated. In many of those areas where in the popular mind psychology is supposed to know the answers we have not enough facts right now even to develop a theory—for example, on the specific role of psychological factors in classes of mental illness, on principles of child rearing which will lead to mental health, and on the character of the relationship between emotional conflict and such bodily conditions as asthma or ulcers or other so-called psychosomatic disorders. Then there is psychotherapy. In spite of its liveliness and its vitality, there are few systematically assembled facts, hardly enough to support any theory; there are few assessments of resulting change. There are to date chiefly speculation and strong convictions.

I stated before that I could see current evidence of this virtue of industry in fact finding. No one looking back over the past fifteen years would dispute this, whether he took a dim or an approving view of empirical activities. Much is going on in the hospital and in the clinic, much in the laboratories, animal and human; and we are extending our observations and experimentation in social psychology, as in the recent studies of Hovland and his associates (15) on the impact of communication on social attitudes. Another instance in the field of social psychology is the new joint seven-nation study, a cooperative research program planned by a group of social scientists at Oslo. It is novel be-

cause of its extensive scope of subjects in Belgium, France, Germany, the Netherlands, Norway, Sweden, and the United Kingdom. The broad question that they are examining in all seven countries, by survey and by group experiment, is essentially this: How does variation in threat to a group reflect itself in variation in attitudes within the group, and, particularly, in attitudes toward the deviant members of the group? You may remember that in 1935 Harold Jones (16), arguing that what's worth doing at all is worth doing widely, urged psychologists to carry out parallel investigations in different geographical and cultural areas. Now we are getting around to doing this.

For industry in theory making I hardly need to argue. Nobody doubts that theory building is now popular. In 1948 "Theory and Systems" was given for the first time a section all of its own among the rubrics in *Psychological Abstracts*. Marx's book on psychological theory has appeared. The Pittsburgh symposium on current trends in psychological theory (11) has been published. *Annual Reviews* has given a chapter to theory since its first volume. The *Psychological Review* and the *Journal of Personality* have entire issues devoted to it. Among suggestions sent in for the program and activities of the Division of Personality and Social Psychology of APA last year, a large proportion called for more attention to theory. The president of the Division of Clinical and Abnormal Psychology in his opening message predicts that in the years immediately ahead Division 12, too, will do more intensive work on theory, and Magaret (23) in her article on psychodiagnostic developments of 1951 discerns signs that clinicians are becoming "self-conscious about their theoretical affiliations."

We psychologists tend to try to clarify terms before talking about them. I was moved to try to straighten out my thoughts on what was meant by theory a couple of summers ago when I attended a postdoctoral workshop on research in personality theory. As we examined together the so-called theories that had come and gone throughout the history of psychology and compared one with another, it became clear that different psychologists and psychiatrists had used and were using the word *theory* with quite different meanings. To Tolman, as we all know, it is a "set of intervening variables"; to Meehl and MacCorquodale a "hypothetical construct"; to Boring a "generalized description"; to Bergmann a set of laws deductively connected. To Freud (13), so far as I can find out, a scientific theory is a set of conventions for classification of phenomena, derived from observations, conventions which change in time and then become clarified as concepts; to David Rioch a theory is, like language, a central nervous system activity which orients the individual predictively in time and space and attitude, and orients similarly another person. To Rioch, therefore, theory is both personal and interpersonal (25). You see what a range we have here. There are many more definitions, but these tell enough of the ambiguity of the term.

I wondered then if other scientists used the word *theory* in such varied ways. When I returned to Pasadena I conducted my own little private poll among some of the scientists and their distinguished visitors at the California Institute of Technology. There too I found some diversity. To one of my physicist respondents, theory enters only when there must be a reconciliation between apparently discordant, or at least unrelated, systems, each in itself complicated and elaborate—such as the Dirac equations to relate the concepts of Einstein's relativity to those of quantum theory. One biologist insisted that a theory is a grand and noble achievement of the human mind and that the theory of the gene is the only theory in biology that is worth its salt. Another physicist, on the other hand, pooh-poohs this notion; a theory, he says, is just a bright idea that you want to try out, just the best guess you can make at the moment. Others defined theory as a series of correlations between observations, all highly quantitative. Some added the fact that a "good" theory was characterized by the fact that a small number of statements suffices to explain a very large number of facts. To those physicists who went on to talk about psychology, our theories just now seemed like hypotheses, not full-fledged theories.

On a number of points all my scientists seem to agree. All agree that a theory is not permanent or absolute, that if it becomes static it is apt to become dogma; that one theory is superseded by another, as the Ptolemaic was by the Copernican; that a scientific theory or a law is an approximate truth, useful within limits for certain requirements. All agree on two criteria as essential for a theory: that it be useful, fruitful, opening up new areas of exploration and discovery; and that it provide basis

for prediction. We psychologists right now, after the reports on the VA assessment project and on the Menninger study, feel appropriately humble about our predictive accomplishments.

About two of the responses in my physicists' poll I want to digress for a moment to make two points. One response was from a well-known theoretical physicist who, when I asked my question, hesitated a minute. Then he said, "It is a picture of the universe that opens up all kinds of new possibilities, just as Freud did in psychology with his theory of the unconscious." He went on then to discuss the greatness and originality of Freud and his theory. It has been interesting to me to see how much earlier the physical scientists were than academic psychologists to recognize and accept Freudian theory. Ever since 1925, when Freud was anathema to the academicians, one of the theoretical physicists at Caltech has argued very much as Ernst Kris does today. The argument goes about as follows: The fundamental concepts of psychoanalysis derive from scientific observations in exactly the same sense that concepts in any science are derived. The method of psychoanalysis, free association, is a definite prescribed method which can be used by any qualified experimenter and will, when used, yield consistent results. The experiment is repeatable, by different experimenters, using precisely the same method. Thus findings can be "checked." But the main point of his argument centers about the expression "qualified experimenter." Who *is* a qualified experimenter? That, says this physicist, is the well-trained psychoanalyst and *only* the psychoanalyst. It is folly to expect either to discover or to check psychoanalytic concepts by any other method. Why, he asks, is there such a pressure independently to confirm (or rather to refute) psychoanalytic findings? The answer, he believes, is to be found in the phenomenon of the well-known resistance, the reluctance to accept the ego-disparaging concepts and distasteful notions that psychoanalysis gives us. "The very idea!" he says indignantly. "Does anyone not trained in experimental physics ever say to Carl Anderson: 'Look, I will not believe that there is such a thing as a positron unless I can discover it for myself by some other independent method. I'm not going to take your word for this positron business.' Or does anyone refuse to accept Bohr's theories on the structure of the atom or Einstein's on relativity because he himself cannot check and confirm them? In any other science no one expects to step in without training in the specific method and verify or refute a finding. Only in regard to psychoanalysis does such arrogance occur." This, as I say, has been for years this physicist's heated contention. There are things to question in his argument, but the point I am making is that relatively early many physical scientists accepted Freudian theory and supported it staunchly.

The other reply to my question on which I want to comment came from another physicist who has been "practicing" theory making since the 20's. When I asked him how he defined a scientific theory, there was a long silence. Then he said, "Gosh, I've never been in the kind of fix where I had to think about that." The point I wanted to make in mentioning this reply was that I believe there is a positive value in combining our virtue of industry in theory making with modesty or freedom from self-consciousness. The physicists do not exhort everyone to make theories. They do not think they can be made that way. They do not, in fact, find that everybody *can* make theories or that theories can be made on every subject. No one, for example, has been able to devise any adequate theory for the entire field of nuclear forces; yet some of the best experimental physicists continue to work in it empirically, and empiricism alone is the guide for their conduct as scientists. It appears to be, as Conant (9) says in his Bampton lectures on *Modern Science and Modern Man:* "All that an ardent scientist has to believe is that the lowering of the degree of empiricism can go on indefinitely." Physicists furthermore do not offer courses or symposia on theory construction. They "carry their theories lightly," as Titchener used to say. Hebb (14) conveys a little of this more flexible and less pompous attitude toward theory when he says that our solution is to put theory in the background instead of in the foreground where it blocks our vision, and also to combine knowledge of theory with a perpetual search for new biases. He uses an analogy between the stepladder and already existing theories: We climb on them to get to the next stage. Hence even so-called "wrong" theories may have positive value as guides to observation and as principles of selection. They have value too in providing a point of attack, since in demonstrating the shortcomings of one theory scientific advance

often occurs. As Eddington (12) put it, "Theory may help observation by showing the kind of data which it is especially important to improve." I like especially Hebb's unassuming comment: "If only because of the frailty of man's intellect we must theorize. It is only in the rubble of bad theories that we shall be able to build better ones and without theory of some kind somewhere, psychological observation and description would be chaotic and meaningless."

The next virtue that I wish to extol is *control.* As I wrote earlier, I am using these names of virtues to suit my fancy. By it I do not mean controlling our dispositions or our tempers or our neighbors or our students. I mean the application of more, and more rigorous, controls in our scientific investigations and analyses. I believe this is a virtue that we need very much in order to stay amicably together.

In thinking about this matter of control, a number of things have struck me. For one, the word has many meanings. We speak of being able to "predict and control" behavior; we undertake to "control conditions" in an experiment, to perform a control experiment, to use control series or control groups. Perhaps it might have been better to call these last "comparison groups." Clearly the first use—to predict and control—is not what we mean by scientific control. It is rather what Bauer (1) describes vividly in his book *The New Man in Soviet Psychology;* it is regulation or direction.

The account of control in the eleventh edition of the Encyclopaedia Britannica straddles all meanings. It is worth reading. The word comes from the medieval Latin *contra rolulus,* meaning "a counter roll or copy of a document used to check the original. It is a substantive for that which checks or regulates anything, and so especially command of body or mind by the will and generally the power of regulation." Then it reads: "A control, or control experiment in science, is an experiment used, by an application of the method of difference, to check the inferences drawn from another experiment."

It is significant that in Dampier's *History of Science* (10) the word *control* does not appear at all in the index. Physicists tell me that it would never occur to them to talk about control. Controlling conditions in an experiment, or keeping conditions constant, is, as they put it, just an obvious part of scientific method. *Control or comparison groups* are unnecessary for them. A piece of iron today is the same as it was yesterday or will be tomorrow, and one piece is the same as any other. Protons and electrons don't change when you turn your back on them. Indeed, some physicists don't even know what is meant by a control group.

Another thing that has struck me is that different kinds of control developed at different periods. The history of the controlled experiment is long, going back to John Stuart Mill's canons. When we come to statistical controls, which certainly must be recognized alongside of experimental controls, we find that the first application of statistical methods to social data began with the study of the Bills of Mortality by Sir William Petty and John Graunt in the seventeenth century and was revived in the nineteenth by the Belgian astronomer L. A. J. Quetelet. In 1835 and later years Quetelet showed that the theory of probability could be applied to human problems. He found that the chest measurements of Scottish soldiers or the height of French conscripts varied around the average according to the same laws as are seen in the distribution of bullets around the center of a target or in the runs of luck at a gaming table. Out of such applications of the theory of probability grew sampling methods which are relatively modern.

If we are interested in the history of control groups in psychology, Solomon (27) points out that the twentieth century contains that history. Not a single case of the use of control group design can be found before Thorndike and Woodworth's experiment on transfer of training in 1901.

Boring (4) reminds us that part of the history of *control* in psychology grows up with the distrust of the observer. He quotes Whitehead: "These psychologists who devote their lives to the study of the mind nevertheless do not trust it." We mistrust our capacity to form unbiased inferences. By control, as Boring says, we protect our conclusions from our predilections.

The other part of the history of control, again to quote Boring, grows up with the recognition that all facts are relative and every quantitative fact is really the statement of a difference or ratio. If Y varies with X, if Y is a function of X, we still have not established a *fact* until we have also shown that

not-Y does not vary with X. Here is where we have to see, for instance, how the experimental group differs from the control or comparison group, or the experimental series from the control series. Statistics make it possible to talk about the significance of the difference.

I am not contending that rigorous control is always possible in every problem, nor am I arguing that sensible controls are easy to come by. But I am arguing that we need to try. If we review the psychological literature over the past fifteen or twenty years, certainly we have made progress here. It is true that in clinical research, for example, control groups are hard to find and they are seldom satisfactory. Still, far more attention is paid to the problem both of normal and of clinical controls than in the old days. It has been suggested that the frequent insertion in psychological articles of "under the conditions of this experiment" may be evidence of an awakening scientific conscience and increased sophistication. Surely we have become more sensitive to the pitfalls of errors of sampling than we were, and now we feel much more guilty when we err.

There is one more virtue that I want to mention. It is maturity. In this case I shall resort to demonstration rather than discussion. You know the story of the farmer who was asked if he believed in baptism. "Believe in it!" he exclaimed in surprise. "Why, sure, of course. I seen it done." All of you have known the past presidents of this organization, mature and sober folk. Here, in photographs, is presented a little story of the growth and development of our past presidents; I ask only that you note the change toward maturity over the years.

Eight past presidents are deceased. But only two that are living did not send pictures. When comments accompanied the photographs, they are quoted.



1. Lewis M. Terman (1921). Terman wrote supportingly, "I think your idea for lightening the presidential address is a good one. Somewhere there is a baby picture of me taken when I was about two years old. . . . It is a tintype and I will send it to you."



2. Edward C. Tolman (1922). No comment.



3. Walter R. Miles (1925). Miles wrote, "Last evening I succeeded in locating the enclosed photograph, taken in February 1889. I was not quite four years old. My mother was a few months past twenty-five. Having this photo taken was more her idea than mine. I remember the occasion quite well and wasn't too fond of the get-up. Then, too, I remember having to stand a long, long time until it made me bug-eyed."



5. Warner Brown (1928). This picture came within the folds of a Julian Press spring book advertisement. It was featuring on one page *Are Your Troubles Psychosomatic?* He wrote, "No infancy. But you could use any infant's picture for all I care. They all look alike anyway. Actually I am curious to know what you are up to and may go to the meeting just to find out."



4. Kate Gordon (now Moore) (1926). "Here is the requested image," she wrote. "You will note that the professorial posture is well established at eighteen months. I wonder what you are up to."



6. Calvin P. Stone (1931). Dr. Stone notes that he had plenty of unruly hair. "One of my sisters wet it down to facilitate a nice part." He was ten.



7. Edward R. Guthrie (1933). With this, the recurring suspicious comment: "I enclose a picture which need not be returned when whatever sinister purpose you have in mind has been accomplished."



9. Milton Metfessel (1936). "The one on the left. Age four years. Probably it was taken in 1905 at Waterloo, Ontario, Canada," he writes. "In those days we had to 'hold still and look at the birdie' when a photographer went to work."



8. Harold Jones (1934). No comment.



10. Paul R. Farnsworth (1937). Again no comment. I'd have liked one. It refutes Warner Brown's statement that "all infants look alike anyway."



11. Howard R. Taylor (1939). Here are his comments: "I have no doubts about your ability to fit the material I have forwarded to you into your talk. Nor am I unduly worried about the reverse projective significance you may discern in it. As to predicting from it, I'm sure Sheldon would consider the long robes, leaving only a visage to go on, too great a handicap—even for one who can read inborn delinquency from the contours of bone and sinew. Isn't the microcosm supposed to mirror the macrocosm? Or is that just a recurrent delusion?"



12. E. R. Hilgard (1941). With this one just a suggestion of skepticism followed by a quick reaffirmation of faith.



13. Jean Macfarlane (1942). Jean greatly preferred an alternative picture she sent, in which she was sitting on the grass feeding a baby pig with a bottle.



14. J. P. Guilford (1946). "Your notification of your plot against past presidents of WPA intrigues me. . . . I am the one on your left."



15. Ralph Gundlach (1948). "My wife likes the Civil War quality of this one—the hat, buttons, shoes, and the solid full-bellied stance."



17. Maud Merrill James (1950). "Here are three developmental samples. Use whichever one best suits your nefarious purpose."



16. Floyd Ruch (1949). No comment.



18. Robert Leeper (1951). "I send the enclosed with trepidation, because I have difficulty in imagining what socially constructive use you would make of the same. But I send it anyway. . . . It was taken at about the time of my entrance into high school."

I have written about the virtue of amity or cooperation and the rewards I see for our two plowmen's staying together. I have not written much about the vices because I think we know enough about them already. I have mentioned some of the virtues I believe we shall need in order to maintain our common life, practice and theory together. I have tried to borrow a little from the experience of other sciences in working out the relationship. I can think of no better word on which to conclude than Eddington's wise one written back in 1920: "The time when speculative theory and observational research may profitably go hand in hand is when the possibilities, or at any rate the probabilities, can be narrowed down, by experiment, and the theory can indicate the tests by which the remaining wrong paths may be blocked off one by one."

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THE TEACHING OF PSYCHOLOGY IN THE JUNIOR AND COMMUNITY COLLEGES[1]

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RAPID expansion of the junior and community colleges today and steady increase of student populations in attendance have raised questions in the minds of professional psychologists as to how much and what psychology is being taught in this area of education, who is teaching it, and how it is being taught. The dearth of studies [2] and almost complete lack of information on courses in the science in this post-high-school form of learning indicate that systematic appraisal is needed. Such knowledge will help to fill a gap in evaluation of the teaching of psychology in the various educational areas and levels. This report briefs an initial step made to fill in the facts.

A questionnaire study called for responses by psychology department chairmen in ten categories:

1. courses offered in psychology by title, type, and function;
2. topics dealt with most frequently;
3. texts and text materials used;
4. teaching methods employed;
5. teaching aids utilized;
6. achievement evaluation practices;
7. teaching problems;
8. instructor description by degree, preparation in psychology, and professional duties;
9. curricular offerings by the college;
10. personal contribution of the chairman, or his department, to the teaching of psychology.

The catalogue study was designed to supplement the questionnaire study. It collected data on three counts:

1. how many psychology courses were officially offered by the college;
2. what kinds of courses were taught in terms of title and description;
3. their length in semesters.

SAMPLING DATA

Tables 1 and 2 present sampling data. Of the 644 questionnaires sent out, 207 were returned. Of this number 182, or 28 per cent, were usable for study. Catalogues from the same 182 colleges, plus 9 others from similar institutions, bringing the count to 191, or 30 per cent, were used for the catalogue study.

The data in Table 1 indicate an adequate representation of states. However, proportional representation of public versus private institutions was out of balance and therefore in some question. Table 2 shows that representation of population groupings was adequate with the exception of those involving 16,501–17,500 and 18,001–18,500 where only one college fell into each group; and 1–2,000 where only 23 per cent were sampled. Proportional data were not secured for men's versus women's coeducational institutions, for colleges controlled by various religious denominations, or from accredited versus nonaccredited institutions.

In comparing data from the questionnaire with

[1] This paper is a brief of an unpublished survey of the teaching of psychology in the junior and community college completed in September, 1952. Analysis of the questionnaire data was presented to the Division on the Teaching of Psychology at its annual meeting in September, 1951. Analysis of the catalogue data was presented at the annual meeting in September, 1952. A summary of the data was filed with the Division on December 15, 1952.

The committee to investigate the Teaching of Psychology in the Junior and Community Colleges, appointed by Leonard Carmichael as President of the APA Division on the Teaching of Psychology, consisted of Spragg, Youtz, and Cooper, chairman, and Hurlock, member *ex officio*. Cooper was personally responsible for initiating and centering the committee's activities, but the report is drawn up and submitted by the entire committee. Youtz was personally responsible for collecting and reporting on the catalogue data.

[2] The only data available were those included as part of a study by Sanford and Fleishman (2).

TABLE 1

DISTRIBUTION OF QUESTIONNAIRE AND CATALOGUE SAMPLES BY STATE AND PUBLIC VERSUS PRIVATE CONTROL

Number Listed in Junior College Directory—1950				Number in Questionnaire Study				Number in Catalogue Study			
States Sampled	Colleges Listed	College Control		States Sampled	Colleges Listed	College Control		States Sampled	Colleges Sampled	College Control	
		Pub.	Priv.			Pub.	Priv.			Pub.	Priv.
N 47	644	338	306	43	182	118	64	42	191	129	62
% 100%	100%	53%	47%	92%	28%	65%	35%	89%	30%	68%	32%

those from the catalogue study certain discrepancies were observed. Lack of uniformity in numbers responding to the questionnaire and differential reporting on various items presented difficulties. As a consequence, this picture of the teaching of psychology in this educational area is only an approximation of currents in the junior and community colleges today.

Terminology used in the junior college area establishes three main types of courses into which all may be classified. These types are significant because of the presently assumed differences in make-up and uses of subject matter. The *university parallel* is by acceptance given credit for transfer to a senior or four-year college with a preprofessional or liberal arts program. The *terminal* course has no transfer status but does carry credit toward the associate degree or diploma awarded at completion of a prescribed two-year terminal program. The *adult*, by general acceptance, is a noncredit course offered adults in the late afternoon and evening hours.

Table 3 gives data on the number of such courses as reported by respondents to the questionnaire from 182 colleges. Predominance of the university parallel is noteworthy in view of the present preoccupation of the literature of the junior and community college with courses and curricula of the terminal variety.

TABLE 2

DISTRIBUTION OF QUESTIONNAIRE AND CATALOGUE SAMPLES BY STUDENT POPULATION

Population Groupings Junior College Directory	Colleges in Groups	Percentage of Total	Populations Represented in Data of Questionnaire and Catalogue Studies		
	N	*N*	*N*	%*N*	%*N*
1–2,000	579	89.9	153	84.1	23.9
2,001–4,000	36	5.6	14	7.6	2.2
4,001–6,000	8	1.1	5	2.7	.8
6,001–8,000	11	1.7	8	4.4	1.1
8,001–10,000	7	1.1	1	.6	.2
*					
16,501–17,500	1	.2	0	0.0	0.0
*					
18,001–18,500	1	.2	0	0.0	0.0
*					
28,001–28,500	1	.2	1	.6	.2
Total	644	100.0	182	100.0	28.3

* No college populations in intervening categories.

TABLE 3

PSYCHOLOGY COURSES IN JUNIOR COLLEGES CLASSIFIED BY CURRICULAR TYPE

(Data from questionnaires returned by 182 colleges)

Course	*N*	%
University parallel (only)	369	71
Terminal (only)	92	18
Adult (only)	1	0
Various combinations above	47	9
No credit, or unspecified	8	2
Total	517	100

Table 4 indicates how many psychology courses are taught at the various junior colleges, as revealed by the catalogues.

Table 5 provides tabulation of the frequency with which semesters of psychology are required for the junior college associate degree, as reported on the questionnaire. What is of the greatest significance in the data of Table 5 is the large number of colleges that reportedly require no semesters in psychology. In addition, if data from the questionnaire relative to the offering of electives are an indication of the number of psychology courses offered in the various curricula, there are few courses available in spite of catalogue listings.

TABLE 4

JUNIOR COLLEGES OFFERING EACH NUMBER OF PSYCHOLOGY COURSES

(Data from 191 catalogues)

Number of Courses Offered	Colleges N	Colleges %
0	3	2
1	25	13
2	53	28
3	38	20
4	43	22
5	10	5
6	7	4
7	5	3
8 or more	7	4
Total	191	100

Table 6 shows what kinds of courses are offered and what percentage of this sample of colleges offers each kind of course, as revealed by catalogue data. When the 116 titles were classified under 15 headings, it was found that 85 per cent of all the courses fell into the groups labeled general psychology, applied psychology, mental hygiene, child and adolescent, and educational psychology.

Table 7 shows which kinds of courses are given for two semesters, as stated in the catalogues.

An effort was made to get at the aims of the various psychology courses through questionnaire listing of topics and written statements of function, but adequate information could not be extracted from the present data. The functions and aims of a course are not delineated in its title or in the listing of its topics.

The questionnaire data revealed that the methods, teaching aids, achievement evaluation practices, and problems found in this teaching area parallel, in a general way, those in the senior college. This is not surprising if reference is made

TABLE 5

SEMESTERS OF PSYCHOLOGY REQUIRED FOR JUNIOR COLLEGE ASSOCIATE DEGREE

(Data from questionnaires returned by 135 colleges)

Semesters Required	Colleges Reporting	Per Cent Requiring
0	71	52
1	24	18
2	31	23
3	5	4
4 and 5	4	3
Total	135	100

TABLE 6

NUMBER AND PERCENTAGE OF COURSES UNDER EACH OF 15 GENERAL HEADINGS AND PERCENTAGE OF 191 COLLEGES OFFERING EACH KIND OF COURSE

(Data from 191 catalogues)

Classification*	Courses	% of Total Courses	% of 191 Colleges Offering Each Kind of Course
General psychology†	187	31	94
Applied psychology	101	17	53
Mental hygiene	82	14	43
Child and adolescent	81	13	42
Educational psychology	56	10	30
Social psychology	20	3	10
Psychology of personality	15	2	8
Abnormal psychology	14	2	7
Experimental psychology	10	2	5
Statistics	10	2	5
Psychology of family	8	1	4
Testing	6	1	3
Physiological psychology	4	1	2
Vocational guidance	3	0	2
Miscellaneous	9	1	5
Total	608	100	

* Altogether, 116 different titles were used for the 608 courses classified.

† Only 180 different junior colleges (94% of 191) gave general psychology courses. However, 7 of them gave two versions of such a course.

TABLE 7

LENGTH OF PSYCHOLOGY COURSES

(Data from 191 catalogues)

Classification	1 Semester		2 Semesters	
	N	%	N	%
General psychology	147	79	40	21
Applied psychology	98	97	3	3
Mental hygiene	79	96	3	4
Child and adolescent	74	91	7	9
Educational psychology	55	95	3	5
Social psychology	19	95	1	5
Personality	14	93	1	7
Abnormal psychology	13	93	1	7
Experimental psychology	2	20	8	80
Statistics	10	100		
Psychology of family	8	100		
Testing	6	100		
Physiological psychology	4	100		
Vocational guidance	3	100		
Miscellaneous	7	78	2	22
All courses combined	539	89	69	11

to the classification of course types in Table 3, which shows 71 per cent of them to be university parallel, and, in addition, if it is remembered that terminal courses are frequently combined with them.

Well over half of the respondents (59 per cent) to the questionnaire from 123 colleges reported texts as adequate. Satisfaction did not run higher than 74 per cent on any item describing them. Texts were checked as questionable to unfavorable in usefulness by 41 per cent. Topics set up for scientific study only were reported as a source of dissatisfaction by 56 per cent. Fringe learning devices providing such things as vocabulary aids to learning, chapter summaries, and questions and problems for study were sources of dissatisfaction to 62 per cent, 44 per cent, and 50 per cent.

Of 399 texts reported in use, the largest number (141) fell into the group used by general psychology. Of these, Ruch (1) was reported most often, with 78 users. Other texts were those used by the senior college but with far fewer frequencies.

Table 8 gives frequencies of the various degrees held by junior college psychology instructors, as reported on the questionnaire. Those holding degrees requiring graduate study amounted to 91 per cent of the total, a percentage that compares favorably with the estimate made of psychologists in teacher-training institutions (3). What is significant, however, is that the percentage of instructors holding the MA degree only is as high as 66 per cent, and the percentage holding the PhD is as low as 25 per cent.

TABLE 8

FREQUENCY OF HIGHEST DEGREES HELD BY PSYCHOLOGY INSTRUCTORS IN THE JUNIOR COLLEGES

(Data from questionnaires returned by 176 colleges)

Degree	*N*	%
BA	28	9
MA	206	66
PhD	80	25
Total	314	100

Another approach to description of the psychology instructor in the junior and community college is through an estimation of preparation in psychology. Table 9 presents such figures from the questionnaire. The failure to specify the preparation of 65 per cent of the instructors suggests that a considerable number of faculty members are teaching psychology who are not known to have formal preparation in the science. A similar lack of definite evidence is indicated in the questionnaire data in Table 10, showing professional membership of the instructors in psychology in the junior college. Significance lies in the percentage (78 per cent) of the 314 instructors whose professional membership was not specified.

TABLE 9

PREPARATION IN PSYCHOLOGY OF JUNIOR COLLEGE INSTRUCTORS IN PSYCHOLOGY

(Data from questionnaires returned by 176 colleges)

Preparation in Psychology	BA		MA		PhD		Total	%
	N	%	*N*	%	*N*	%		
Major	3	1	48	15	5	2	56	18
Minor	4	1	35	11	13	4	52	17
Unspecified	21	7	123	39	62	20	206	65

TABLE 10

PROFESSIONAL MEMBERSHIP OF JUNIOR COLLEGE INSTRUCTORS IN PSYCHOLOGY

(Data from questionnaires returned by 176 colleges)

Organization	*N*	%
Member, American Psychological Association	61	19
Member, Division on Teaching of Psychology	9	3
Unspecified total reported on	244	78
Total	314	100

TABLE 11

TEACHING AND RELATED DUTIES OF JUNIOR COLLEGE INSTRUCTORS IN PSYCHOLOGY

(Data from questionnaires returned by 182 colleges)

Psychology Charge	BA		MA		PhD		Total	%
	N	%	*N*	%	*N*	%		
Psychology only	8	2	89	24	52	14	149	41
Psychology and other subjects	13	4	77	21	9	3	99	27
Psych., admin., or counseling	7	2	99	27	12	3	118	32
Total	28	8	265	72	73	20	366	100

Teaching and related duties of instructors in psychology are presented in Table 11, from questionnaire respondents. By some psychologists and educators it is considered desirable that the psychology instructor have personal contacts with students in other than the classroom situation. A high percentage of instructors, 59 per cent, are reported to be carrying simultaneous responsibility in administration or counseling.

CONCLUSIONS

In this survey a number of questions were not answered and others, not anticipated, were raised. This and the growing importance of the junior and community college in the American educational scene indicate need of a further, more thorough, and adequately financed investigation.

General confusion is observable in the over-all picture of present practices in teaching psychology here. Many problems interlock and overlap so that disentangling one requires unravelling another. Mushroom growth of this area of education accounts for this in large part. Whatever the factors, work needs to be done.

Question may be raised as to the effectiveness of integration of psychology in the curricula of the colleges. Of importance in answering this is the discovery of the attitudes of deans and administrative officers toward the functions of the professional psychologist, the functions of the psychology course in the curricula, and the modes by which the functions can best be fulfilled. Of equal importance are the attitudes and recommendations of professional psychologists concerned with the area.

No systematic evaluation has been made of the fundamental problem of the similarities or differences to be found between the senior college and the junior and community college students. Failure to pin this problem down is responsible for much loose thinking, action, and professional frustration throughout the teaching of psychology in these settings.

Terminal and adult education courses have not fulfilled expectations of prevailing educational philosophy. Either psychologists are at fault, or there is a tendency, legitimate or otherwise, to return to the university parallel course for all comers.

A job similar to that done on undergraduate instruction in the senior college (4) might well be undertaken for this educational area. Appraisal should be made of the relative values of the cross-section versus the developmental course, the content versus the "habit" course, and courses presenting psychology by means of basic principles, technical applications, and what has been aptly termed "Sunday Supplement education."

Another problem requiring attack is that of increasing the application of psychology to specialized purposes. A legitimate practice, application is dealt with in the report on undergraduate psychology, where the special-interest course is given a working place in the curriculum (4). In the junior and community colleges trends in the special-interest courses are toward custom tailoring to highly specific and practical personal-social-vocational needs with a decreasing amount of basic content. At some point this practice raises the question of popularization of psychology.

Suitability of textbooks to student needs is debatable. Prevalence of text materials concerned with basic concepts rather than adaptations testifies to dominance of the university parallel course over the terminal and adult and reflects in still another way the prevailing confusion.

Questionable, also, is the adequacy of preparation of instructors in psychology, and conflict is evidenced over the whole problem of teacher background. This may be due in part to psychologists themselves, in part to administrators, in part to educational theorists. Present tendencies to use vocational specialists to teach applications of psychology in their field and pressure on the subject-matter specialist to give place to the "master teacher" in the "core curriculum course," add further to befuddlement. Concern should be with the part to be played by the professional psychologist. As long as psychology is taught as "psychology," adequate background in psychology is imperative.

Poor representation of junior college instructors in the APA and even poorer representation in the Division on the Teaching of Psychology support the present uncertainties for professional psychologists. Whether responsibility lies with the administrator or the psychologist cannot be pinpointed. In any event, the profession has an obligation. The APA should encourage membership for psychologists working in this area, whether teachers or not, then spur members to participate in systematic

study. Division 2 should bring instructors into membership and foster activity on these problems. The profession of psychology has a duty to perform for itself and for education.

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THE AMERICAN PSYCHOLOGICAL FOUNDATION

THE American Psychological Foundation derives from a generous and socially responsible idea. A number of psychologists who have prospered in their work have wished to support in turn their science and profession. For instance, the author of a test has asked about how he might give approximately a hundred dollars from his royalties each year to support research in the area of his interest; the author of an elementary book in psychology has wanted a way to lend support to the scientific enterprise which enabled him to write his text; a psychotherapist with an unusually remunerative practice has wished audibly for a way to make a share of his income effective for the support of research on personality; and a psychologist who is vice president of an advertising corporation has wanted to support research in attitude change. Moreover, individuals who have felt as clients the benefits of psychology in either their economic enterprises or their personal lives have indicated that if some institution were available to carry out their desires, they would like to contribute to the further development of psychology. It is literally such instances of potential donors looking for a way to support psychology which have indicated the need for a stable, continuing institution that can carry out their generous and responsible intentions.

At its spring meeting in 1951, the Board of Directors of the American Psychological Association appointed a committee to explore the desirability of establishing an institution to meet this need. This committee first under the chairmanship of C. P. Stone and later under Norman Munn suggested a separate corporation named the American Psychological Foundation and wrote for it a set of specifications. At the meeting of the APA in 1952 in Washington, D. C., the Board of Directors moved and the Council of the Association voted that "the last seven past presidents of the Association living and willing to serve" should constitute first, a committee to get the Foundation incorporated, and second, the initial Board of Trustees. This device makes for an automatically rotating Board of Trustees composed of members in whom the profession as a whole has expressed confidence. On June 8, 1953, the Foundation was duly incorporated under the laws of the state of Delaware. On that day, the incorporators had their meeting and elected as trustees the last seven living presidents of the APA.[1]

At their first meeting (in Cleveland, September, 1953) the trustees concerned themselves with getting the Foundation into operation. On the organizational side, they elected as secretary and treasurer, respectively, Fillmore H. Sanford and Carroll L. Shartle, and they established the principal office at the headquarters of the APA in Washington, D. C. On the policy side, they agreed that the Foundation should not depend for its supportive operations on income from capital in hand, but rather should expect to operate regularly with contributions annually received. At the same time, it was agreed that the Foundation should be prepared to receive both large capital gifts and bequests from wills even though the donors may request that the principal be untouched for operations.

On the policy side, it was further agreed that if a small foundation is to have an impact, it must choose wisely what it is to support. It is unlikely, for instance, that any dent could be made with such standard operations as scholarships and research grants. As individuals, the trustees found some enthusiasm among themselves for supporting such enterprises as the publication of research monographs. On the other hand, they felt that the impact could be maximized if they got directly from the profession an expression concerning those areas in which unmet needs for support are felt. In consequence, a questionnaire is shortly to be circulated to provide psychologists with an opportunity to express themselves concerning what the Foundation can support with the most needed and desirable effect.

At this first meeting, the trustees found themselves with a penniless foundation, but the duration of such penury was brief. Within a day, the author of a textbook had written a check to the Foundation for $250. Shortly two other text-authors had written checks for $100; a clinical practitioner had contributed $50; a college professor had given $10, and

[1] Henry E. Garrett, Carl R. Rogers, Donald G. Marquis, Ernest R. Hilgard, J. P. Guilford, R. R. Sears, and J. McV. Hunt (chairman) comprised this founding committee and initial Board of Trustees.

a consulting firm was laying plans for a contribution of something like $500 or even $1,000. There are reasonable hopes for a sum of somewhere between $5,000 and $10,000 for this first year of operation. This assumes that contributions continue coming. Something like one or two per cent of royalties received from texts, tests, and the like has been suggested as an appropriate annual gift to the Foundation, but the size of contribution for any person is a matter for his own conscience and his own circumstances.

The American Psychological Foundation has been advised by legal counsel that its Constitution and Bylaws conform to the requirements of the Internal Revenue regulations and laws designed to foster nonprofit educational and research organizations. The Foundation will specifically apply for a ruling exempting it under Section 101 (6) of the Code of the Bureau of Internal Revenue. As soon as it has been in operation one year, namely, on June 8, 1954, such a ruling will allow any donor to give to the Foundation with complete freedom in so far as taxes are concerned. In the interim period any person or organization may contribute to the American Psychological Foundation and list this donation as a deduction on income tax returns with every expectation that the Foundation will be held to be exempt within the meaning of the appropriate statute.

Anyone wishing to make a contribution may do so by writing a check to the American Psychological Foundation, Inc., and mailing it to Dr. Fillmore H. Sanford, Secretary, American Psychological Foundation, 1333 Sixteenth St. N.W., Washington 6, D. C. The Foundation is ready to function. It should become an important factor in the future development of psychology.

THE OFFICERS AND TRUSTEES: J. McV. HUNT, president; D. G. MARQUIS, vice-president; F. H. SANFORD, secretary; C. L. SHARTLE, treasurer; C. R. ROGERS; E. R. HILGARD; J. P. GUILFORD; R. R. SEARS; L. F. SHAFFER.

The Search For Talent

Washington has a special sense of participation in a project now under way to aid in discovering and developing the talent this Nation will need in its role of world leadership. The honor of delivering the first Walter V. Bingham lecture has just been awarded by the American Psychological Association to Dr. Lewis M. Terman of Stanford University. The idea for this award was outlined in a memorandum left by the late Dr. Bingham, who in his years in Washington was a pioneer in applied psychology, and more recently consultant to the Army General Staff and the Secretary of Defense. After Dr. Bingham's death last year, Mrs. Bingham, in conjunction with the American Psychological Association, worked out a plan for an annual $500 lecture award for work in developing techniques to discover talent. Dr. Terman, the first recipient, is widely known for his researches in intelligence and achievement measures.

Dr. Bingham believed that leadership "commensurate with our country's resources and responsibility" must be developed, and that the first step should be to encourage those pioneering in discovering talent. The award that honors him may do something to counterbalance the trend in this country toward neglect of the gifted child in the zeal to bring all to a level. It may also help to emphasize that mental resources are more important than material items in a nation's strength.—

Editorial, *The Washington Post*
October 25, 1953.

APPLICANTS FOR FELLOW STATUS: 1955

LISTED below are the names of 104 Associate members of the APA who are applying for Fellow status, together with the names of the divisions through which they are applying. No action has been taken on the applications by the divisions, nor by the APA Membership Committee. The list is printed here in accordance with Council action of September 1952 revising procedures for Fellow applicants. (The new procedures are outlined on pp. 651–652 of the November 1952 *American Psychologist*.)

Members are invited to transmit information concerning the qualifications of these applicants to the appropriate divisions and to the APA Membership Committee.

It is from this list that the divisions will make their nominations. By August 1, 1954, each division will submit its preliminary nominations. At the annual APA convention in September 1954 each division will submit its final list of nominees after the divisional business meetings. These final nominations, together with recommendations from the APA Membership Committee, will be considered by the Board of Directors, and a list of Associates recommended for transfer to Fellow status will then go from the Board to the APA Council of Representatives for vote. Fellow status for those elected will become effective January 1, 1955.

The deadline for filing applications with the APA office was October 1, 1953, for applicants who wished consideration at the September 1954 annual meeting. The deadline for those wishing consideration at the September 1955 meeting will be no earlier than October 1, 1954. By that date applicants will need to file with the APA Central Office (Attn: Membership Committee) one copy of the Uniform Fellow Blank for each division through which they are applying. The necessary blanks and instructions should be obtained from the appropriate division secretary (listed on the inside front cover of the November 1953 *American Psychologist*).

Applicant	*Division*
Alexander, Theron	Division on Childhood and Adolescence
	Division of Personality and Social Psychology
Axelrad, Sidney	Division of Personality and Social Psychology
	Division of Clinical and Abnormal Psychology
Baugh, Verner S.	Division of Clinical and Abnormal Psychology
Bayton, James Arthur	Division of Personality and Social Psychology
Bean, Kenneth Lamont	Division of Clinical and Abnormal Psychology
Bennett, Margaret Elaine	Division of Counseling Psychology
Beran, Marianne	Division of Clinical and Abnormal Psychology
Bersh, Philip Joseph	Division of Experimental Psychology
Billingslea, Fred Y.	Division of Personality and Social Psychology
	Division of Clinical and Abnormal Psychology
Blackwell, Ernestine B.	Division of Clinical and Abnormal Psychology
Blum, Gerald Saul	Division of Clinical and Abnormal Psychology
Buegel, Hermann F.	Division of Experimental Psychology
Bugental, James F. T.	Division of Personality and Social Psychology
	Division of Clinical and Abnormal Psychology
Canter, Aaron H.	Division of Clinical and Abnormal Psychology
Cassel, Russell N.	Division of Educational Psychology
Cautley, Patricia W.	Division of Personality and Social Psychology
Chesler, David J.	Division on Evaluation and Measurement
	Division of Industrial and Business Psychology
	Division of Psychologists in Public Service
Christie, Richard	Division of Personality and Social Psychology
Coleman, William	Division of Counseling Psychology
Collier, Mary	Division of Clinical and Abnormal Psychology
Costin, Frank	Division of Clinical and Abnormal Psychology
Criswell, Joan Henning	Division of Personality and Social Psychology
	The Society for the Psychological Study of Social Issues (A Division of APA)

Cutler, T. H.	Division of Industrial and Business Psychology
Dai, Bingham	Division of Clinical and Abnormal Psychology
Davidoff, Melvin D.	Division on Evaluation and Measurement
Delman, Louis	Division of Clinical and Abnormal Psychology
Delp, Harold A.	Division of Clinical and Abnormal Psychology
	Division of School Psychologists
Dinsmoor, James Arthur	Division of Experimental Psychology
Doppelt, Jerome E.	Division on Evaluation and Measurement
Eitzen, David D.	The Society for the Psychological Study of Social Issues (A Division of APA)
	Division of Clinical and Abnormal Psychology
Embree, Royal B., Jr.	Division of Counseling Psychology
Erikson, Erik H.	Division on Childhood and Adolescence
Eron, Leonard David	Division of Clinical and Abnormal Psychology
Feifel, Herman	Division of Clinical and Abnormal Psychology
Feldman, Marvin Jerome	Division of Personality and Social Psychology
	Division of Clinical and Abnormal Psychology
Fine, Reuben	Division of Clinical and Abnormal Psychology
Franklin, John Fabian	Division of Clinical and Abnormal Psychology
Freeman, Albert Vincent	Division of Clinical and Abnormal Psychology
Friedmann, Alice	Division of Clinical and Abnormal Psychology
Fruchter, Benjamin	Division on Evaluation and Measurement
Gamble, Allen O.	Division of Industrial and Business Psychology
Gardner, Eric Freeman	Division on Evaluation and Measurement
Genn, George	Division of Clinical and Abnormal Psychology
Gilbert, Harry B.	Division of Clinical and Abnormal Psychology
	Division of School Psychologists
Glad, Donald D.	Division of Clinical and Abnormal Psychology
Grimsley, Glen	Division of Industrial and Business Psychology
Grob, Samuel	Division of Clinical and Abnormal Psychology
Grossman, David	Division of Clinical and Abnormal Psychology
Gustad, John W.	Division of Counseling Psychology
Haagen, Conrad Hess	Division of Experimental Psychology
Harris, Frank J.	Division of Industrial and Business Psychology
Ho, Ching-Ju	Division of Counseling Psychology
Humber, Wilbur S.	Division of Clinical and Abnormal Psychology
Janis, Irving L.	Division of Personality and Social Psychology
Kahn, David Frederick	Division of Clinical and Abnormal Psychology
Kamm, Robert B.	Division of Counseling Psychology
Kelley, Harold Harding	The Society for the Psychological Study of Social Issues (A Division of APA)
Kendall, William E.	Division of Industrial and Business Psychology
Kline, Milton V.	Division on the Teaching of Psychology
Knapp, Pearl Gilliland	Division of Clinical and Abnormal Psychology
Knauft, Edwin Burdette	Division of Industrial and Business Psychology
Knutson, Andie Leonard	The Society for the Psychological Study of Social Issues (A Division of APA)
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Kraus, Jane Mary	Division of Clinical and Abnormal Psychology
Lazarus, Richard S.	Division of Personality and Social Psychology
	Division of Clinical and Abnormal Psychology
Levinson, Boris Mayer	Division of Clinical and Abnormal Psychology
Littman, Richard A.	Division on the Teaching of Psychology
	Division of Experimental Psychology
	Division of Personality and Social Psychology
Loevinger, Jane	Division on Evaluation and Measurement
Long, Howard Hale	Division of Personality and Social Psychology
Mahl, George	Division of Clinical and Abnormal Psychology
McCormick, Ernest J.	Division of Industrial and Business Psychology
McGuire, Carson	Division on Childhood and Adolescence
	Division of Personality and Social Psychology
	Division of Educational Psychology

Milner, Esther	Division of Personality and Social Psychology
Morton, Robert B.	Division of Clinical and Abnormal Psychology
Pruette, Lorine Livingston	Division of Personality and Social Psychology
Raley, Sister Agnes Lucile	Division of School Psychologists
Rapkin, Maurice	Division of Clinical and Abnormal Psychology
Recktenwald, Lester Nicholas	Division of Counseling Psychology
Rhulman, Jessie L.	Division of Counseling Psychology
Ricciuti, Henry N.	Division of Personality and Social Psychology
Rock, Milton Lee	Division of Industrial and Business Psychology
Rokeach, Milton	Division of Personality and Social Psychology
Saltzman, Irving	Division of Experimental Psychology
Schmeidler, Gertrude Raffel	The Society for the Psychological Study of Social Issues (A Division of APA)
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Senderling, Ellwood Wesley	Division of Clinical and Abnormal Psychology
Silverman, Hirsch Lazaar	Division of Educational Psychology
Siple, Howard L.	Division of Personality and Social Psychology
Sommers, Vita Stein	Division of Clinical and Abnormal Psychology
Stelzer, Theodore G.	Division of Educational Psychology
Swift, William Porter	Division of Industrial and Business Psychology
Taylor, Donald Wayne	Division of Experimental Psychology
Thompson, Charles E.	Division of Clinical and Abnormal Psychology
Thompson, Helen Reed	Division of Clinical and Abnormal Psychology
Turner, Ralph H.	Division of Personality and Social Psychology
Vickery, Katherine	Division of General Psychology Division on the Teaching of Psychology
Waldrop, Robert S.	Division of Counseling Psychology
Wallace, Wimburn Leroy	Division on Evaluation and Measurement Division of Counseling Psychology
Weckler, Nora	Division of Personality and Social Psychology
White, Mary Alice	Division of Clinical and Abnormal Psychology
Williams, Meyer	Division of Clinical and Abnormal Psychology
Wood, Edgar Otto	Division of Personality and Social Psychology
Wright, Beatrice A.	Division of Personality and Social Psychology

Comment

Psychologists and Civil Liberties

Some discussion has been going on among psychologists as to what can be done with reference to attacks upon them in terms of impugned loyalty as expressed in their beliefs, writings, or acts. I have four suggestions.

1. My own view is that the only protection which exists, under our Constitution, is to have all the pertinent facts about a person known. I believe we gain everything by a full knowledge and tend to lose everything by the present secret methods by which people are either charged with disloyalty or are left to guess what some unknown charge may be.

The procedure of the loyalty investigations has often been based on some such assumption as this: If, in 1938, there was a meeting on, let us say, the forms and meanings of discipline in the elementary school, and if it could be shown afterwards that one or two of the persons who addressed the meeting have Communist affiliations, then, therefore, any person who spoke or addressed the meeting is suspect. Those who are in day-by-day contact with these problems will know that this is only a very slightly disguised reference to a factual situation which constantly confronts us, in which people whom we could all identify, and who have been known publicly for a lifetime as upholders of the democratic creed, are smeared by allegations and kept out of opportunities to serve their country, usually in so secret a form or by such complex techniques that they do not know under what conditions the charges were made, or indeed very frequently what the charges are.

Under these conditions, I believe that a psychologist can reasonably ask that his record as teacher, writer, researcher, and citizen be very fully examined; the more thoroughly he is investigated, the better. I think that blanket protesting against all investigation leads to many misunderstandings. Public investigation is needed, not private investigation; the more rigorous it is with respect to relevant facts, the better. We have every reason to cling to and demand full light upon the facts; it is our only protection.

This is of special importance in connection with a man's position with reference to peace with Russia. Suppose a man believes that every possible attempt must be made to find a *modus vivendi* with the Soviet Union, not on their terms alone, and not on our terms alone, but a genuine *modus vivendi* by which both can find a way to exist in the world with each other, believing that a war of H-bombs and guided missiles could very well destroy the civilization we talk about preserving, or at least cripple it into decades of harrowed and wretched attempts to get back to the civilization that we once knew. Does "peace with Russia" mean disloyalty? The answer depends on *knowing the facts regarding a man's actual position,* rather than arbitrarily bracketing him with others who, for other reasons perhaps, use the language of peace.

We could, of course, take the position that we will not appear in any meeting in which Communists or pro-Russians appear. This seems to me tantamount to the statement that we will not budge or even discuss budging; a position which when duplicated on the other side means the war which we want to avoid. If anybody believes that to attempt to preserve the peace is *ipso facto* evidence of being a Communist, I can only point out that many of the most vigorous and effective patriots have been those who fought for their country by steering it clear of the destructive influence of war. If war is once involved, it may well turn out that pacifist endeavors are functionally close to antipatriotic activities, and I am not discussing this issue. But to take the position that a person is a Communist because he tries to preserve peace by using the channels that are now open to him becomes absolutely stultifying, especially in the case of those whose utterances, whose writings, and whose professional lives have been clearly and consistently devoted to democratic causes, the public nature of which is beyond any question whatever.

Actually, I know a good deal about the way in which lists of supposedly subversive individuals are made up. Often they are made up largely by constantly checking hearsay of various sorts (I have had to know something about the way in which such hearsay is spread, and have come within smelling distance of a good many of the third-hand techniques by which insinuations are conveyed). Signing petitions and attending meetings are usually regarded as constituting evidence. (The Bill of Rights has something explicit to say about the right to petition, and it does not state that the appearance of a signature on a petition may be used as a political weapon against the signer.) At the same time, the explicit evidence regarding the things for which a man has stood and fought all his life are often not even brought into the record. This sort of thing has been going on not only with reference to the employment of people by the United States, but even with reference to getting passports to make a brief vacation trip to Europe. Here and in every statement which I make I will be glad to give the documentation to individuals concerned. But the doings have gotten to such a point

that if names are mentioned in *print* of persons who are involved in such cases, the smear-atmosphere means that some people begin immediately to associate the named persons with implicit blame. First, we stir up a lot of smoke on the basis of insinuations, and then when it turns out that the insinuations are specifically unsound from the beginning to end, we point to the smoke and say "where there is so much smoke, there must be some fire."

When I refer to concrete evidence which a liberal can offer as showing his position, I mean such things as supporting the work of the American Friends Service Committee, the Americans for Democratic Action (which explicitly rules out Communists), teaching at the New School for Social Research (the faculty of which drew up a ringing anti-Communist declaration), and more recently supporting the "Iron Curtain Refugee Campaign," which is an express device for helping refugees who have escaped from the Soviet Union, a program naturally bitterly attacked by the USSR. Yet, as the situation stands now, the fact that one contributed to and stood for these groups will not count at all if the fact is mentioned that in 1938 one addressed a peace meeting on a college campus.

The usual result of the fact that any association of a name with a suspect activity firmly ties the two in the minds of the audience, is the tendency to keep out of such things, keep quiet, hope that your passport will come through, hope that people will gradually forget what has been said. This has gotten to the point where smear-tactics directed against the soundest upholders of democracy in our midst are often handled by pussy-footing as to whether an accused person did or did not sign some petition. This is getting to a point where apparently the way in which to vanquish slander is to yield to it on every point until the slanderers have gone to sleep, and then sneak out by the back door.

I suggest in the light of these considerations a definite policy to be used by psychologists: Ask that the light be made brighter, so that our position may be utterly and completely known. Demand that the McCarthys and McCarrans also get their share of the light as it relates to public ethics and loyalty, and that it be played into the dark corners with equally relentless fury. We know the fear of the light evidenced in the use of Congressional immunity and in the ways in which factual documentation of malpractices is hush-hushed. Let psychologists be judged as citizens on what they have publicly said and done in the course of their professional careers.

Some psychologists think that the procedure that I am suggesting will not work, because a man may have stuck to his business so expressly that there are no political implications in any professional work he has ever done. Any suspicion directed against him would therefore presumably be based on activities aside from his professional work. My own feeling is that in these cases, also, the only protection is in throwing full light, *public* light, on everything relevant. I believe that just as the law recognizes the soundness of a "reputation" based upon what fellow citizens know about a man, so we can rely upon the public with which we are associated, whether in academic or in other circles, to catch the implications of what we have done, provided that *all* the facts are known. If there are those who say that one of us was certainly a Communist because he made a statement defending Edward C. Tolman, and the Group for Academic Freedom, then it becomes evident upon what basis the judgment about our Communist activity has been formulated. In other words, even when no documentary material expressly showing pro- or anti-Communist viewpoint is available, we do well to have the full facts of our public record and public utterances known.

2. Another line of activity which psychologists could profitably carry out would be to show concretely by gathering existing data and by fresh research what the effect of the attacks now going on upon the loyalty of psychologists is on the specific public contributions which psychologists may offer. There is, of course, the loss of a huge potential service to the United States now carried out by a stupid rather than an effective method of screening out subversives. An effective method is, of course, urgently needed; subversives need to be found, and they need to be kept out of places where they can do harm. This point must be heavily underscored, and no psychologist can safely undertake to defend, in the present position of great danger which we face, any laxness or casualness about the screening of potential spies or sources of national danger. But to keep psychologists out of usefulness to their country, because of the indirect and secret procedures which are now used, is sabotage of our national effort at practically every line. I believe that we should counterattack; I believe we should show the antipatriotic nature of the activities which are so stupidly and mistakenly impairing the utilization of our technical resources.

3. Closely related to this procedure would be a historical study of the effect of the present type of investigative activities upon the morale of groups in federal employment. Such a study was recently conducted under the direction of Jahoda at New York University; systematic and extensive work of this sort is within the range of psychologists and much of it is needed.

4. The fourth line of activity is to get other groups of scholars in some really formidable organization of some tens of thousands of members who would make public declarations in the press, in magazines, and in booklet form. A half dozen magazines with large distribution have been fighting on the side of academic

freedom already, and this would make a gala occasion for some really big publicity. At the same time, most important of all, we could work with progressive and labor groups everywhere which are becoming frightened and which need some leadership. As far as the effect upon our scholarly world is concerned, we are the people most closely in touch with the problem, and could spearhead the issue as it relates to interference with science and scholarship in all its forms. The inquisitors can nip off a few people here and there at any time; it is much harder to cope with an aroused public which is serving the country on so large a scale, and which is represented by thousands of thoughtful people acting in concert.

None of this involves budging to the left at all. It involves nothing more than was involved in the action taken by the APA with regard to the California oath situation. It involves sticking to simple civil liberties; nothing more, nothing less.

GARDNER MURPHY
The Menninger Foundation

EPA Goes on the Air

An interesting experiment in public relations was undertaken at the Boston meeting of the Eastern Psychological Association in April, 1953, when both the regular EPA programs and special round tables were recorded for FM radio broadcasting. Altogether nearly four hours of the meetings were "taped" at the time, and the major part of the material was broadcast during the following month by the Lowell Institute Broadcasting Station WGBH.

The educational FM broadcasts reach a rather specialized audience. This station has, nevertheless, something like 75,000 regular listeners in New England, many of whom we felt would gain a better appreciation of psychology by listening to psychologists at work. WGBH regularly presents more than ten hours a week of regular class and lecture material. Their engineers were not startled by our academic and professional idiosyncrasies. How the public feels about us, we do not know.

Our public relations chairman had some difficulty in picking the material suitable for broadcasting. Technical papers on physiological psychology or new wrinkles in projective techniques did not seem ideal, especially as so many of the technical reports make use of slides or mimeographed material. On the other hand, we were disappointed to find that many of the more general topics were discussed in terms of either (*a*) problems of professional organization, or (*b*) the proper semantics to be used. We took the position that the public does not care too much about who does it, or what he calls it. It wants to know what and why.

The two symposia recorded in their entirety were "The Meaning of Psychological Health" (Karl Heiser, chairman) and "The Relevancy of Social Research for War Prevention" (Herbert C. Kalman, chairman). With the Secretary's suite serving as a studio, discussions were recorded based on papers by T. G. Andrews *et al.*, "An Empirical Analysis of the Effectiveness of Psychological Warfare"; by Douglas G. Schultz, "The Effects of Certain Types of Preparation for the Selective Service College Qualification Test"; and by John E. Bell, "Family Group Therapy as a Treatment Method."

To sum up, the comments of Chester Bennett, in charge of public relations, may be quoted. He says, "Perhaps our cooperation with station WGBH was our most useful venture. The radio broadcast gives the psychologist a chance to speak for himself, time to develop and interpret his message, and an intelligent lay audience. We found this particular station very receptive, which suggests the possibility of cooperation with similar stations elsewhere. As a matter of fact, the EPA tapes recorded in Boston are available for rebroadcast through the exchange arrangements of the NAEB. . . . We believe the possibilities of this medium of communication with the public offer more than mere publicity and should be explored."

EDWIN B. NEWMAN
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Psychological Writing

With reference to Dr. Neel's comments[1] on the decrease in journal subscriptions, may I say that I agree in general with his remarks and would like to add a few of my own.

Judging partly from my own experience I should say that one of the reasons for the decrease is the increasing dullness in most of the articles. Sensitiveness to expected criticism from one's professional colleagues and an urge to be properly scientific and precise has led to a kind of owlishness in writing. This pretty successfully smothers all readability under a clutter of diagrams, charts, operational definitions, statistical formulas sharpened out of all proportion to the precision of the original data, and other evidences that the author is keeping himself well tied in academic knots. Some of this obviously has to be endured for science's sake, and one would not want to see concern for such thrown entirely to the winds. As Dr. Neel says, the specialists will be interested anyway. But one notices in most articles a distinct attenuation of what started out as the fascinating stuff of personality. And it is we, the specialists in the commodity, who have so refined our studies that we are starting to lose interest ourselves. Furthermore we are more and more speak-

[1] NEEL, R. G. The decrease in journal subscriptions. *Amer. Psychologist*, 1953, **8**, 204.

ing a language that no one but ourselves can understand, and so we are losing out in our influence and contact with disciplines outside of the social sciences as well as losing touch with our culture. This latter is a tragic thing.

As an antidote here are a few suggestions for what they are worth. First let each prospective psychologist-author give himself some assigned reading in William James in order to flex and relax his stylistic muscles. Then, taking a hint from this master, let him allot himself a certain minimum number of witty comments per page, even though they have to be labeled by an asterisk as jokes so as not to mislead the more sober-minded brethren. Then let him also permit himself a limited number of allusions to ideas outside the field of psychology even at the cost of having to read an occasional nonpsychological book in order to get the ideas. This will help the rapport with the world outside. In addition, perhaps the editors of the journals could be persuaded to slight method occasionally in the articles they select in favor of relevance and the significance of the problem. Finally, it might become a convention, when the subject matter just has to be rather tough and gnarled, for there to be a section in which the author discusses his conclusions and their implications in more popular language. Here let him speculate and play his fancy with complete Rogerian permissiveness without its being held against him. I predict that this would be the most sought after part of articles which might be expected to attract not only psychologists, but also readers outside the fraternity. Indeed psychology might even begin to get around in the scholarly world.

Back about the seventeenth century certain satirists declared what they called a War on Dullness. Psychologists had better begin a similar war, for if dullness is not killed first we are going to have several dead journals on our hands, not to speak of a sterile science.

WALTER HOUSTON CLARK
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The Discharge of Maladjusted Individuals from the Armed Services

Recently in conversation with a noncommissioned Navy officer I learned that his previous assignment had been that of assisting in the processing for discharge of individuals whom he referred to as "riffraff." Inquiry revealed that these men were "chronic malingerers, thieves, sexual deviates, neurotics, and so on." I asked if any therapeutic measures had been taken in an attempt to help these people make a satisfactory adjustment to Navy life, or at least to prepare them for a return to civilian life so that they would not present a threat to society. To his knowledge no such program was in operation. This, of course, needs confirmation.

What will become of these men and boys who are being dumped back into the lap of civilian society because they have been labeled unfit for Navy duty? One resists pondering the possibilities.

It occurs to me that here, as in all branches of the service where mass screening of our young men occurs regularly, lies an opportunity for the government to make a tremendous contribution to the improvement of our society by providing the help which various social service professions such as psychology can give these rejected men. If they cannot be salvaged for the service in which they are enlisted, they should at least be returned to civilian life not as threatening "characters," but rather as individuals rendered capable of making an adequate and constructive contribution to our society. Since the recruitment of our young men and women for duty with the armed services is likely to continue for a number of years, literally hundreds of seriously maladjusted individuals would regularly be discovered in the process.

It would be superfluous to dwell on the time-honored adage concerning an ounce of prevention. Further, it is well known to all concerned that the armed services are not the only organized institutions, whose purposes for being are not to provide therapy, where individuals needing the services that professional psychology can provide are discovered incidentally through observation and screening. But I feel that as psychologists we have the responsibility, when such matters come to our attention, of sharing the observation with our membership. In this way we may become aware of the many opportunities open to us, as professional people concerned with human behavior, for collectively influencing the development of measures which will result in organized attempts to help those who have been officially designated as "undesirables."

ROBERT H. BEEZER
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The Mother-Blaming Complex Among Psychologists [1]

Although psychologists have not been conspicuously identified with proclamations that "Mom is to blame," there is evidence that a mother-blaming attitude is predominant in that part of our profession concerned with interpersonal relations. The mother-blaming complex is defined as the tendency of an adult to identify himself with the child in the child's insatiable demands upon the mother. The evidence can be summarized in five statements:

[1] A condensation of a paper delivered to Section I, A. A. A. S., Dec. 29, 1952.

1. *Parenthood has never been recognized officially as a branch of psychology or as a normal developmental stage.* The APA contains a Division on Childhood and Adolescence and a Division on Maturity and Old Age. Where is the Division on Parenthood? Maturity, as used by psychologists, is a euphemism. The Division on Maturity and Old Age is concerned with the psychology of involution, never with the psychology of parenthood. In the *Psychological Abstracts* the section on Developmental Psychology skips directly from Childhood and Adolescence to Maturity and Old Age. Articles concerning parenthood can be found under almost any heading except "Maturity."

2. *Child psychology is one of the most intensively cultivated branches of psychology; the "psychology of parents" is virtually nonexistent.* There are articles, books, college courses, journals, societies, and indeed whole institutes devoted to child psychology. The little that has been done on the psychology of parents is largely surreptitious activity of child psychologists.

3. *Research on parents has been concerned almost exclusively with their goodness as parents, as if to say that parents are of interest only for the sake of the child.*

4. *In the study of mothers there has been extraordinary preoccupation with the concept of "maternal rejection."* The objection to the emphasis on maternal rejection is much deeper than that it stresses the occasional unwholesome rather than the many wholesome mother-child relationships. Almost every child believes, at some time or other, that what is wrong is that "Mommy doesn't love me enough." Almost no mother believes that what is wrong is that she doesn't love her child enough. Those who believe that maternal rejection is the central problem of the psychology of motherhood are therefore looking at the mother-child relationship exclusively through the eyes of the child.

It may be said that maternal rejection is unconscious, that the coincidence of the view of the psychologist and the view of the child comes from the fact that children are better psychologists than mothers. But Helene Deutsch (1), a psychoanalyst, has written an entire book on the psychology of motherhood without reference to the concept of maternal rejection. Other psychoanalysts, including Erik Homburger Erikson (2) and Ives Hendrick (3), have argued against the value of this concept. Hendrick has stated:

> This dichotomy [between the acceptance of motherhood or its rejection] is false. The capacity to enjoy motherhood results from a resolution of conflicts of many kinds, not just an acceptance or rejection of the actuality of the baby. That there is a "maternal instinct" or "mother love" conceived as a unitary impulse is a sentiment imposed by our culture but not justified by clinical study. Actually love of a child involves all aspects of a woman's emotional life and interpersonal relationships; it satisfies many fantasies and requires the solution of many conflicts. To conceive of the problem as one of acceptance or rejection is over-simplification which will frustrate all sincere scientific effort as surely as it would to conceive all problems of infection as defined by the presence or absence of fever (3, p. 33).

5. *Literature written by psychologists for parents emphasizes "the rights of infants," the obligation of mothers to satisfy their children's needs.* While the parent is exhorted to satisfy the child's rights and needs rather than his demands, the touchstone for differentiating needs and rights from demands is notably lacking. Psychologists have also written another, non-mother-blaming type of literature, associated with the name of Arnold Gesell. Its aim is not to tell parents what to do but merely what to expect. Its potentialities for good are perhaps limited, but its potentialities for evil are negligible.

The potentialities for evil of the "how to be a perfect parent" literature have not been assessed. In the absence of evidence to the contrary, I should like to propose a hypothesis of inappropriate selection: each parent chooses that advice on how to raise children that is least appropriate for him. To state this hypothesis in more familiar terms, each parent seeks rationalizations for the most irrational aspects of his behavior. One of the tasks of a therapist, whether working with individual or group, is to counteract the tendency to seek rationalizations. Advice which psychologists offer broadside to parents with whom they do not have personal contact may have the opposite effect from what the psychologists intend, or think they intend. Mothers who read books and articles on child rearing and attend child study groups may be those who are already overburdened with conscience; if so, emphasis on child's rights and mother's duties may serve only to increase that burden.

To the extent that discussions of maternal rejection reach the general public, they also may have an adverse effect. Assuming that unconscious maternal rejection is a meaningful concept, the only cure involves making the rejection conscious. The constant reiteration of the evil effects of rejection, whether conscious or unconscious, may result in making parents afraid to face even their transient and innocent moods of hostility towards their children. Thus, if the maternal rejection talk has any effect on mothers at all, it probably makes it harder for them to recognize and handle their hostilities rather than easier.

At present there appears to be a tendency away from a mother-blaming attitude among psychologists. The full consequences for the science of psychology of a more mature attitude towards parent-child relations can-

not be foreseen. Three suggestions arise from the considerations of this paper.

1. Parenthood should be officially recognized as a developmental stage occurring between childhood and old age. Collation of all studies concerning parents in one section of the *Psychological Abstracts* would assist the growth of knowledge concerning parents and encourage recognition of this branch of psychology in teaching and research. The divisional structure of the APA should also make room for the presentation of papers concerning parenthood. The most appropriate alteration would probably be to change the name of Division 7 (Childhood and Adolescence) to the Division on Development. Strictly speaking, Division 20 (Maturity and Old Age) should be renamed the Division on Involution.

2. Studies should be made of what kinds of mothers are receptive to suggestions from psychologists concerning child rearing, and what the effects of various suggestions are. No responsible clinician, in his contact with individual patients and therapy groups, feels justified in making a statement just because it is true, without regard to the effect of making the statement just then and to just those persons. A similar standard of ethics should prevail in the broadside approach of psychologists to the general public.

3. A study of the mother-blaming complex itself should comprise a part of the training of psychologists. Among those young adults who are studying interpersonal relations a preoccupation with the causes of human frailty may lead to a resurgence of mother-blaming. Awareness of the source, the nature, and the consequences of this tendency may help the young psychologist assume a more mature attitude in choice of research problems, in content of teaching, and particularly in clinical practice.

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JANE LOEVINGER
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On the Statistical Treatment of Football Numbers

Professor X sold "football numbers." The television audience had to have some way to tell which player it was who caught the forward pass. So each player had to wear a number on his football uniform. It didn't matter what number, just so long as it wasn't more than a two-digit number.

Professor X loved numbers. Before retiring from teaching, Professor X had been chairman of the Department of Psychometrics. He would administer tests to all his students at every possible opportunity. He could hardly wait until the tests were scored. He would quickly stuff the scores in his pockets and hurry back to his office where he would lock the door, take the scores out again, add them up, and then calculate means and standard deviations for hours on end.

Professor X locked his door so that none of his students would catch him in his folly. He taught his students very carefully: "Test scores are ordinal numbers, not cardinal numbers. Ordinal numbers cannot be added. *A fortiori,* test scores cannot be multiplied or squared." The professor required his students to read the most up-to-date references on the theory of measurement (e.g., 1, 2, 3). Even the poorest student would quickly explain that it was wrong to compute means or standard deviations of test scores.

When the continual reproaches of conscience finally brought about a nervous breakdown, Professor X retired. In appreciation of his careful teaching, the university gave him the "football numbers" concession, together with a large supply of cloth numbers and a vending machine to sell them.

The first thing the professor did was to make a list of all the numbers given to him. The University had been generous and he found that he had exactly 100,000,000,000,000,000 two-digit cloth numbers to start out with. When he had listed them all on sheets of tabulating paper, he shuffled the pieces of cloth for two whole weeks. Then he put them in the vending machine.

If the numbers had been ordinal numbers, the Professor would have been sorely tempted to add them up, to square them, and to compute means and standard deviations. But these were not even serial numbers; they were only "football numbers"—they might as well have been letters of the alphabet. For instance, there were 2,681,793,401,686,191 pieces of cloth bearing the number "69," but there were only six pieces of cloth bearing the number "68," etc., etc. The numbers were for designation purposes only; there was no sense to them.

The first week, while the sophomore team bought its numbers, everything went fine. The second week the freshman team bought its numbers. By the end of the week there was trouble. Information secretly reached the professor that the numbers in the machine had been tampered with in some unspecified fashion.

The professor had barely had time to decide to investigate when the freshman team appeared in a body to complain. They said they had bought 1,600 numbers from the machine, and they complained that the numbers were too low. The sophomore team was

laughing at them because they had such low numbers. The freshmen were all for routing the sophomores out of their beds one by one and throwing them in the river.

Alarmed at this possibility, the professor temporized and persuaded the freshmen to wait while he consulted the statistician who lived across the street. Perhaps, after all, the freshmen had gotten low numbers just by chance. Hastily he put on his bowler hat, took his tabulating sheets, and knocked on the door of the statistician.

Now the statistician knew the story of the poor professor's resignation from his teaching. So, when the problem had been explained to him, the statistician chose not to use the elegant nonparametric methods of modern statistical analysis. Instead he took the professor's list of the 100 quadrillion "football numbers" that had been put into the machine. He added them all together and divided by 100 quadrillion.

"The population mean," he said, "is 54.3."

"But these numbers are not cardinal numbers," the professor expostulated. "You can't add them."

"Oh, can't I?" said the statistician. "I just did. Furthermore, after squaring each number, adding the squares, and proceeding in the usual fashion, I find the population standard deviation to be exactly 16.0."

"But you can't multiply 'football numbers,'" the professor wailed. "Why, they aren't even ordinal numbers, like test scores."

"The numbers don't know that," said the statistician. "Since the numbers don't remember where they came from, they always behave just the same way, regardless."

The professor gasped.

"Now the 1,600 'football numbers' the freshmen bought have a mean of 50.3," the statistician continued. "When I divide the difference between population and sample means by the population standard deviation. . . ."

"Divide!" moaned the professor.

". . . And then multiply by $\sqrt{1{,}600}$, I find a critical ratio of 10," the statistician went on, ignoring the interruption. "Now, if your population of 'football numbers' had happened to have a normal frequency distribution, I would be able rigorously to assure you that the sample of 1,600 obtained by the freshmen could have arisen from random sampling only once in 65,618,050,000,000,000,000,000 times; for in this case these numbers obviously would obey all the rules that apply to sampling from any normal population."

"You cannot . . ." began the professor.

"Since the population is obviously not normal, it will in this case suffice to use Tchebycheff's inequality," [1] the statistician continued calmly. "The probability of obtaining a value of 10 for such a critical ratio in random sampling from any population whatsoever is always less than .01. It is therefore highly implausible that the numbers obtained by the freshmen were actually a random sample of all numbers put into the machine."

"You cannot add and multiply any numbers except cardinal numbers," said the professor.

"If you doubt my conclusions," the statistician said coldly as he showed the professor to the door, "I suggest you try and see how often you can get a sample of 1,600 numbers from your machine with a mean below 50.3 or above 58.3. Good night."

To date, after reshuffling the numbers, the professor has drawn (with replacement) a little over 1,000,000,000 samples of 1,600 from his machine. Of these, only two samples have had means below 50.3 or above 58.3. He is continuing his sampling, since he enjoys the computations. But he has put a lock on his machine so that the sophomores cannot tamper with the numbers again. He is happy because, when he has added together a sample of 1,600 "football numbers," he finds that the resulting sum obeys the same laws of sampling as they would if they were real honest-to-God cardinal numbers.

Next year, he thinks, he will arrange things so that the population distribution of his "football numbers" is approximately normal. Then the means and standard deviations that he calculates from these numbers will obey the usual mathematical relations that have been proven to be applicable to random samples from any normal population.

The following year, recovering from his nervous breakdown, Professor X will give up the "football numbers" concession and resume his teaching. He will no longer lock his door when he computes the means and standard deviations of test scores.

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[1] Tchebycheff's inequality, in a convenient variant, states that in random sampling the probability that a critical ratio of the type calculated here will exceed any chosen constant, c, is always less than $1/c^2$, irrespective of the shape of the population distribution. It is impossible to devise a set of numbers for which this inequality will not hold.

Across the Secretary's Desk

Congressional Hearing on Mental Illness

On October 2, 1953, the Executive Secretary of APA was requested by Congressman Charles A. Wolverton, Chairman of the House Committee on Interstate and Foreign Commerce, to prepare a statement on mental illness and to appear before the Committee for a hearing on October 8. (The Committee has cognizance, for peculiar historical reasons, over legislation concerning chronic diseases.) Michael Amrine, our public information consultant, Richard Willey, Executive Assistant in the APA Central Office, and the Executive Secretary, after conferences with psychologists and psychiatrists, prepared a statement. At the hearing on October 8 there were eight witnesses, including five psychiatrists (Drs. Daniel Blain, Samuel Wortis, Francis J. Braceland, Robert H. Felix, George S. Stevenson), one medical research man (Dr. Seymour Kety), one advertising executive (Charles Schlaifer), and the APA Executive Secretary. The hearings were orderly and only moderately formal. Each witness was given an opportunity to speak a brief piece and the congressmen asked questions—very intelligent questions, obviously based on good general information about mental health. No controversial issues arose, no obvious salesmanship was in evidence, no tension characterized the proceedings. All participants agreed that it was a satisfying experience to see this instance of government in action. None can now say what action the committee may take, if any, as a result of the hearing. But whatever the legislative outcome of the hearing, it is clear that the committee made a conscientious and successful attempt to acquaint itself with the national problem of mental health.

A report on the hearing was sent from the Central Office to members of the APA Board of Directors. Several Board members suggested that the prepared statement be published here. It is—in abbreviated form. The statement represents an attempt (*a*) to state a psychological position on mental health and (*b*) to present material that would supplement usefully the material we anticipated the psychiatrists would present. The statement is now an official part of the records of Congress.

STATEMENT OF THE EXECUTIVE SECRETARY OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

Prepared for
The Committee on Interstate and Foreign Commerce of the House of Representatives

Thursday, October 8, 1953

I. *The Significance of Mental Health*

The present statement need not add to the evidence, presented in other statements now before the Committee, on the frequency of mental illness, on its cost to the nation, in both misery and dollars, on the need for facilities to care for mental patients, and on the relatively small part of total medical research expenditures that are directed toward the solution of mental health problems.

It may be well to point out here, however, that the magnitude of the mental health problem is not to be measured by counting the number of people now in mental hospitals. In addition to those who are institutionalized there are many others, considered relatively "normal," who nonetheless have severe and crippling emotional problems. There are delinquents, alcoholics, and those who are accident-prone. There are people whose failure to adjust swells our divorce rate. There are people who do live "normally" and work regularly but whose happiness and effectiveness are hobbled by curable psychological difficulties. For each of the half million Americans now in a mental hospital, there are perhaps ten or twenty or fifty whose lives are crippled by some form of personality disturbance.

The problem of mental health is vastly greater than the problem of mental illness. The two problems can be separated only if we draw an arbitrary line between health and illness. In thinking about social or governmental responsibility for mental health the line should probably not be drawn. Nor should it be drawn in considering research; mental disorders are human disorders and there is good reason to believe that we will understand the more dramatic forms of disorder when—and only when—we understand the natural laws of human behavior. Research that helps us understand the human being will benefit not only the mentally ill, but also the

potentially ill and the millions of people who now live, because of emotional problems, far below their best level of effectiveness.

II. *Research on Mental Health*

It is obvious that solutions to our mental health problems are to be found only through research. As our population increases, increasing millions of people will suffer from mental troubles and the burden on the taxpayer will grow—unless we find new ways of preventing and of treating mental illness. We can find these new ways only through scientific research. We will not find them for a very long time if we continue to put piddling amounts of money in research budgets, if we continue to overwork and underpay the staffs of our mental hospitals and research centers, if we continue our failure to attract into the behavioral sciences a sufficient number of gifted young people, if we continue to make research work less remunerative, psychologically and financially, than service activities, and if we continue to build new wards and add beds while the laboratory is still housed in some cramped and ill-equipped attic.

The science of human behavior is a very young science. For centuries man has directed his scientific curiosity almost exclusively to the world about him. Only recently has he asked meaningful questions about events occurring within his own skin. And only recently and reluctantly has he given up his ideas about witches and devils as the causes of behavior disorders. Scientific psychology began less than a hundred years ago in a laboratory in Leipzig. The first American laboratory of psychology was founded by William James at Harvard University in 1874.

There is no reason, in the nature of things, why we cannot have a sound and systematic science of human behavior. We are making genuine progress in all scientific fields concerned with the behavior and well-being of the human being. But our knowledge of human behavior is still fragmentary and our understanding of mental illness is very incomplete. There are still many thousands of patients whose mental illnesses we simply do not know how to treat or how to prevent. For example, present-day treatment of schizophrenia, the most prevalent and most chronic of the severe mental illnesses, is still very much a hit-or-miss procedure.

Within the existing limits imposed by shortages of money and of trained people, present knowledge is being applied with intelligence and effectiveness. But present knowledge, if applied by twice the present number of psychiatrists, clinical psychologists, social workers, hydrotherapists, occupational therapists, and others, and applied in twice the number of institutions, could not possibly do more than halve the number of people in mental hospitals. A single research discovery tomorrow or next month or next year might achieve the same result. In the light of the slow pace with which science seems to develop, it would be very optimistic to bet all of our money that such a discovery will come even during our lifetime. But it would be foolhardy, on the other hand, to spend all our money applying treatment methods known to be only partially effective. We need to know more.

A. *Research Costs Money*

Knowledge gives man power. But power from knowledge is proportional to the resources spent in gaining it.

Each year the various states spend an estimated $560 million, in capital and operating costs, on mental hospitals and related services. The Federal government spends an equivalent amount for the psychiatric care of veterans and in the payment of pensions resulting from psychiatric disabilities. The total annual amount, from all sources, spent for research on mental illness is about 6 million dollars or about ½ of 1 per cent of the total expenditure. To most informed observers, this division of expenditure is grievously unsound. It is as full of folly as a military decision to freeze weapons development, putting all resources in the manufacture and use of existing weapons while little or no attention is paid to the future—to the improvement of weapons or to the increased study of better ways of using them.

B. *Research Must be Basic*

It would be a mistake to assume that bigger and better hospitals and greater numbers of people engaged in treating mental illness will automatically result in new knowledge of human behavior. Research involves something else than the clinical concern for patients. While it is very important that we learn more about existing diagnostic tests and about the most effective use of known methods of treatment, we will probably make more real progress if we invest heavily in the man who seeks to understand the basic laws of human behavior. The discoveries made by the basic scientists do not often have the appearance of immediate utility. But over a period of time it is the theoretician and

the basic experimentalist rather than the engineer who does the inventing.

C. *Research Must Involve a Number of Sciences*

Research in mental illness must involve many disciplines. We know there are biological, psychological, and social factors in mental illness. We should know that an understanding of mental illness will not be created by those who apply any single scientific discipline. Research on mental illness not only must emphasize basic science, but must emphasize basic sciences. The neurologist, the physiologist, the physiological psychologist, the sociologist, and the anthropologist have significant roles to play in supplementing the research of the psychiatrist and the clinical psychologist.

D. *Research Requires Trained Men*

Scientific research is a very demanding activity carried on by gifted and highly trained people. Research gets done only if there are people both able and available to do it. There are not enough people now available for needed research in the behavioral sciences. There seem to be several reasons for the shortage.

1. *American waste of the talented.* Manpower experts, believing our very survival to be dependent on our creative use of our scientific and technical resources, are seriously alarmed over our failure as a nation to use our intellectual talent. We have hundreds of thousands of potential scientists and engineers who, for one reason or another, do not continue beyond a high school education. And even those who do receive college degrees and who do have the talent for science, turn to business or to the professions when they find that research positions are not very secure or very remunerative.

2. *The competition for research skills.* The behavioral sciences must draw their gifted young people from a limited supply pool. At the present time the behavioral sciences—physiology, psychology, sociology, and anthropology—cannot compete too successfully with the older, more established, and more prestigeful natural sciences. A man with a PhD in chemistry earns from $1,000 to $1,500 more per year than a man with a PhD in psychology.

3. *Selective service policy.* Current selective service policy cuts very seriously into the supply of those who might become creative scientific specialists. In the past, selective service has postponed the drafting of graduate students until they had completed their specialized training. But no more. The country spends large amounts of money on the nurturing of special talent. The government itself, through scholarship and fellowship programs, invests in the training of scientists. The government needs scientists. The military needs scientists. But selective service steps in to stop the training of scientists, often just as the period of usefulness is about to begin. No one can object to a policy that demands of each citizen that he directly serve his country for an equitable period. But there can be grave doubt about the wisdom of saying "you serve *now*" when in two more years the service can be very much more valuable to the country.

4. *Patient load.* When a hospital is understaffed, a psychologist or a psychiatrist has more work than he can handle in giving whatever help he can to people who are desperately ill, whose suffering makes an appeal to every ounce of humanity he has in him. It would be a rather strange psychiatrist or psychologist who could deliberately turn his back on human beings to whom he might be a help and retreat to a laboratory where he could test a hypothesis on white rats! Intellectually he knows it would be very worth while to humanity to get some new ideas into the mental health business, but humanly he could not turn his back on people who need his help at that moment.

The only way to meet this problem is to make decent allowance for the care of patients, to seek out those talented people who can do research and to give them a clear assignment, a clear understanding that they are encouraged to do research work in an atmosphere in which they have time to do it.

It is fairly clear that in none of the specialized fields concerned with mental health is the supply of personnel up to the need. In many cases the supply is not even adequate to the existing demand. In 1953, there are approximately 500 clinical psychologists, or one psychologist per 1000 patients, employed in state mental hospitals. The minimal standard for psychiatric hospitals and clinics, recommended by the American Psychiatric Association, calls for one clinical psychologist for every 100 patients for admission and intensive treatment service and one clinical psychologist for every 500 patients for continual treatment service.

E. *Research Requires Facilities*

Modern research demands equipment and modern scientific equipment is getting more and more expensive. Of course, you can run an entire psychological laboratory for years on the money it takes to build one cyclotron, one or two million dollars. But it's still true that the cost of laboratories

and of scientific equipment is considerable. It is often thought by the public that the scientist is a queer duck who only needs a garret in which he can assemble a few old square boxes and some copper wire and some motors he has taken out of electric fans; but we cannot get new advances in modern science by continuing to treat scientists as poor relations.

The mental health expenditures for research operations are very small, as we have seen, but the capital expenditures for laboratory space and equipment represent an equally discouraging picture. Research scientists must have more tools and more space in which to use them.

F. *Research Requires Organization and Facilitation*

Modern research tends more and more to be a team operation. Congress itself gets its information through teams of research staffs and through teams that are called "committees." Thus it gets from exchange of facts and ideas a better result than any individual member could hope to get on his own. So modern science is no longer an aggregation of soloists, of virtuosos. It is like a symphony in which each player contributes a small part to the whole.

Research must be organized. But we must be careful that it does not become so highly organized that the scientist is more of a hired hand than a creative individual. The most important factor in scientific research is thinking. And though thinking can be programmed, it is sometimes programmed into stultification. In many cases the best way to get the best thinking accomplished is to bring talented and trained people into contact with problems —and then leave them alone. If there needs to be research planning or supervision of research, it is cardinally important, both for the morale of the scientist and the productivity of the project, that planning be as intelligent and as flexible as humanly possible. And supervision of research must be in the hands of those technically and intellectually competent to judge the quality of research efforts. Many scientific and professional projects, both governmentally and privately sponsored, have suffered grievously because nonscientists and nonprofessionals have been given direct supervisory control over activities they do not fully understand. Those who do administer research must be responsible, ultimately, to nonscientists. But direct supervision of research personnel needs to be handled by those who know good research when they see it.

There is currently much dissatisfaction among scientists, both in the government and in the universities, with the governmental handling of the administrative side of research. In general the government attempts to buy research in the same way it attempts to buy paper clips or rifles. Somebody needs to do careful thinking about the form, content, and supervision of research contracts if our scientists are to do their best work and if the country is to derive the greatest benefit.

G. *Research Must be Communicated*

Research depends on communication. Science is a social phenomenon. Scientists need to interchange ideas if knowledge is to be, as it must be, cumulative. Those who sponsor research need to remember that scientists need to attend meetings, publish and read papers. Many scientists will agree that federally sponsored research programs—in the behavioral sciences and in all sciences—suffer because the government does not recognize the importance of scientific communication. The government will hire excellent scientific personnel and will pay all expenses of getting research done. But there the government stops. It will accept little responsibility for the publication of the knowledge its scientists discover. The expenses of scientific publication are borne by libraries or individuals, who, through subscription to journals, pay the costs of publication of governmentally sponsored projects.

From the standpoint of simple economy, the failure to publish in established journals the results of research is a serious waste. It leads to unnecessary and unproductive duplication of research.

Many scientists, both within and without the federal government, will also agree that the recent drastic cut in travel funds, cuts making it impossible for government scientists to attend scientific and technical meetings, falls into the category of very dubious long-term economy. The scientists cannot work with effectiveness in social isolation. If the government takes steps to keep its scientists' noses to their isolated grindstones—through prohibiting travel and through refusal to sponsor publication—the government is taking steps to emasculate science.

The formal statement concluded with a brief description of APA, its membership and functions.

Most of the major points in the statement were made orally at the hearing. Members of the committee asked questions about (*a*) the problem of publication and (*b*) the drafting of graduate students.

FILLMORE H. SANFORD

Psychological Notes and News

Claire Kearse Grauel died on October 26, 1953, in Charleston, South Carolina. Dr. Grauel was a graduate of and for a number of years a part-time instructor at Teachers College, Columbia University.

Catherine Augustine, of the Alto Psychologic Center in San Francisco, died on October 27, 1953, at the age of 50.

At New York University **Robert R. Holt**, formerly of the Menninger Foundation, has joined the department of psychology, Graduate School of Arts and Science, as associate professor and director of the Research Center for Mental Health. **George S. Klein**, formerly of the department of social relations at Harvard University, has been appointed associate professor and director of the clinical laboratory, Research Center for Mental Health.

Roger W. Sperry has been appointed Hixon Professor of Psychology at the California Institute of Technology. Dr. Sperry was recently granted one of the first alumni citations awarded by Oberlin College for his distinguished research in neurophysiology.

Robert H. Schaffer, formerly with the Prudential Insurance Company, has joined the staff of Douglas Williams Associates, New York City.

Wilse B. Webb has recently been appointed head of the Aviation Psychology Laboratory of the Naval School of Aviation Medicine at Pensacola, Florida. The professional personnel working at the Laboratory includes Ensign Norman D. Bowers, Ensign John Creelman, Lieutenant (jg) Edwin P. Hollander, Lieutenant Commander Woodbury Johnson, Lieutenant (jg) Marshal B. Jones, Ensign Robert F. Lockman, Lieutenant (jg) Richard S. Melton, and Lieutenant William H. Nelson; Dr. John T. Bair, Dr. Arthur C. Poe, Mr. Clinton H. Maag, and Miss Rosalie K. Ambler; and Dr. Carroll E. Izard and Mr. Nathan Rosenberg of Tulane University. This unit is responsible for selection and training research in naval aviation.

Samuel M. Seltzer, formerly associate psychologist at the Mental Health Institute, Clarinda, Iowa, has been appointed as clinical psychologist at the Milwaukee County Hospital for Mental Diseases.

Leonard A. Ostlund has accepted the position of assistant professor of psychology and school examiner in the College of Arts and Sciences, Oklahoma A & M College.

Maurice J. Zemlick has announced the opening of his office for the practice of clinical psychology in Clayton, Missouri.

Thomas F. Johnson has assumed the duties of chief clinical psychologist at Osawatomie State Hospital, Osawatomie, Kansas. **William W. Saunders**, formerly chief psychologist at the Youngstown Child Guidance Center, also joined the psychology department there in November.

Virginia N. Harris, formerly of the State Teachers College, St. Cloud, Minnesota, has joined the staff of psychologists of the Public Schools of Cleveland, Ohio.

Woodrow W. Reed has returned to the junior division and counseling service of the University of Nebraska as guidance consultant after a year's internship at the Psychiatric Institute in Omaha.

Philip Himelstein has been appointed assistant in psychiatry (clinical psychology) at Southwestern Medical School of the University of Texas.

Paul W. Penningroth, formerly director of the Child Guidance Clinic of Pinellas (Florida) County, has been appointed director and chief psychologist of a newly created division of mental health in the Florida State Board of Health.

Herbert E. Dawson, formerly of the department of psychophysiology, Fels Research Institute, Yellow Springs, Ohio, has been appointed as research associate in the psychology department, Indiana University, Bloomington, Indiana.

William J. Morgan, formerly with the Psychological Strategy Board, has been appointed Deputy Chief, Research Branch, Office of the Chief, Psychological Warfare, Department of the Army.

VETERANS ADMINISTRATION DEPARTMENT OF MEDICINE AND SURGERY ANNOUNCEMENTS

Clinical Psychology

Manuel Aronson has transferred from VA Regional Office, Syracuse, New York, to VA Hospital, Albany, New York.

Rose Brenner, a graduate of the VA Training Program, New York University, has been appointed to the staff of VA Regional Office, Denver, Colorado.

Alvis W. Caliman has transferred from VA Regional Office, Detroit, Michigan, to the position of Chief Clinical Psychologist, VA Hospital, Tuskegee, Alabama.

Edwin Cohen, a graduate of the VA Training Program, University of Iowa, has been appointed to the staff of VA Hospital, Iowa City, Iowa.

Carlos A. Cuadra, a graduate of the VA Training Program, University of California, has been appointed to the staff of VA Hospital, Downey, Illinois.

Richard H. Dana has resigned from the staff of VA Hospital, Denver, Colorado, to accept a position with the Minnesota Bureau of Psychological Services.

John B. Deiter, a graduate of the VA Training Program, University of Kansas, has been appointed to the staff of VA Hospital, Topeka, Kansas.

Robert Harrington, a graduate of the VA Training Program, Michigan State College, has been appointed to the staff of VA Hospital, Marion, Indiana.

Gertrude S. Harrow has transferred from VA Regional Office, Seattle, Washington, to VA Center, Los Angeles, California.

Ruth B. Hines has been appointed to the staff of VA Hospital, Indianapolis, Indiana.

Gerald L. Hover has transferred from VA Hospital, Saginaw, Michigan, to VA Hospital, Ann Arbor, Michigan.

Marvin Hyman, a graduate of the VA Training Program, University of California, has been appointed to the staff of VA Regional Office, Detroit, Michigan.

Howard Ihrig, a graduate of the VA Training Program, University of Kansas, has been appointed to the staff of VA Hospital, Coatesville, Pennsylvania.

Thomas W. Kennelly has transferred from VA Center, Reno, Nevada, to the position of Chief, Clinical Psychology Training Unit, VA Hospital, Battle Creek, Michigan.

William H. Knapp has been appointed Chief Clinical Psychologist, VA Hospital, Dearborn, Michigan.

Albert Kostlan has transferred from VA Hospital, San Francisco, California, to the position of Chief Clinical Psychologist, VA Hospital, Oakland, California.

Shabse H. Kurland has transferred from VA Hospital, Wilmington, Delaware, to VA Regional Office, Baltimore, Maryland.

Julius Laffal, a former VA trainee at the University of Iowa, has been appointed to the staff of VA Hospital, West Haven, Connecticut.

David Levine, a graduate of the VA Training Program, New York University, has been appointed to the staff of VA Hospital, Lyons, New Jersey.

George T. Lodge has transferred from VA Hospital, Lebanon, Pennsylvania, to the position of Chief Clinical Psychologist, VA Hospital, Durham, North Carolina.

Vernon K. Lum has transferred from VA Hospital, St. Cloud, Minnesota, to VA Hospital, Knoxville, Iowa.

Claude Moss, a graduate of the VA Training Program, University of Illinois, has been appointed to the staff of VA Hospital, Jefferson Barracks, Missouri.

Allen S. Penman has been appointed Chief Clinical Psychologist, VA Hospital, St. Cloud, Minnesota.

John C. Perkins, a graduate of the VA Training Program, Pennsylvania State College, has been appointed to the staff of VA Regional Office, Buffalo, New York.

Henry N. Peters, formerly Chief Clinical Psychologist at VA Hospital, North Little Rock, Arkansas, has been appointed Assistant Director of the Research Laboratory at that station.

Walter H. Peterson has resigned from the staff of VA Regional Office, Chicago, Illinois to accept a faculty position at Loyola University.

Henry L. Pope has resigned from the staff of VA Hospital, Augusta, Georgia.

Henry Samuels has resigned from the staff of VA Office, Mental Hygiene Clinic, Columbus, Ohio.

Frederick W. Schnadt has transferred from VA Hospital, Ft. Lyon, Colorado, to the position of Chief Clinical Psychologist, VA Hospital, North Little Rock, Arkansas.

Edward L. Siegel has transferred from VA Hospital, Boston, Massachusetts, to VA Hospital, Syracuse, New York.

Joseph J. Silva, a former VA Trainee at Fordham

University, has been appointed to the staff of VA Hospital, Bath, New York.

Vernon V. Sisney has transferred from VA Center, Waco, Texas, to VA Hospital, Oklahoma City, Oklahoma.

Louis H. Stewart, a graduate of the VA Training Program, University of California, has been appointed to the staff of VA Regional Office, San Francisco, California.

Edward R. Strain has transferred from VA Regional Office, Indianapolis, Indiana, to VA Hospital, Indianapolis, Indiana.

Murray Tieger has been appointed to the staff of VA Regional Office, Cincinnati, Ohio.

Clare Wright Thompson has been appointed Chief of the Clinical Psychology Training Unit, VA Hospital, Palo Alto, California.

John R. Thurston, a graduate of the VA Training Program, University of Iowa, has been appointed to the staff of VA Hospital, Madison, Wisconsin.

Counseling Psychology

Henry Kavkewitz, a graduate of the VA Clinical Training Program, New York University, has been appointed as Chief, Vocational Counseling Service, VA Hospital, East Orange, New Jersey.

Harold J. Wilson, recently released from a tour of duty with U. S. Navy, has been appointed as Chief, Vocational Counseling Service, VA Hospital, Boston, Massachusetts.

Samuel Wexler, formerly Director of the Counseling Center at Purdue, has been appointed to the staff of VA Hospital, Long Beach, California.

Leroy A. Goodrich has transferred from the VA Regional Office, Milwaukee, Wisconsin, to VA Hospital, Knoxville, Iowa, as Chief, Vocational Counseling Service.

The new president of the **Scientific Manpower Commission** for 1954 is M. T. Carpenter, who succeeds Howard A. Meyerhoff, the Commission's first president. Dr. Meyerhoff will continue to direct the Commission's activities as executive director. Other new officers are John S. Nicholas, vice president; and Dael Wolfle, secretary-treasurer. Five commissioners have been re-elected for terms of three years: Howard A. Meyerhoff, George R. Harrison, Leonard Carmichael, Milton O. Lee, and Stewart S. Cairns.

The Educational Testing Service has announced several staff changes and new assignments. Warren G. Findley, formerly director of test development, has become director of the evaluation and advisory service, and Anna Dragositz is now associate director of that division. Two new staff members have recently assumed their duties with the organization: Wesley W. Walton is responsible for all activities in the sponsored scholarship field and Benjamin Shimberg is special research assistant in educational television.

Rohrer, Hibler, & Replogle has announced the appointment of **Roderick F. O'Connor** to the staff October 15, 1953. Dr. O'Connor completed his doctorate at Vanderbilt University this summer and will now be located in Atlanta.

Worthington Associates, Chicago, Illinois, have recently announced that the following psychologists have joined the staff as senior associates: John J. Flaherty, Edwin C. Nevis, and Robert F. Pearse.

The Division of Education and Applied Psychology at Purdue University has been dissolved. Psychology and sociology, formerly instructional sections in the Division, are now full-fledged departments in the newly constituted School of Science, Education and Humanities. E. J. Asher has been named head of the department of psychology and Harold T. Christensen, head of the department of sociology. The Education section of the old Division becomes a department in the newly constituted School and is combined with the department of physical education for men and the department of physical education for women to form a Division of Education within the School of Science, Education and Humanities.

The Committee on Opportunities for Retired Psychologists. The Division on Maturity and Old Age has appointed a committee to consider opportunities for retired psychologists and possibilities for extension of such opportunities—as in teaching at some other institution, consultation work, research, or otherwise. The committee has been broadly constituted (as will be seen by the membership below) so as to include persons from a variety of fields and in various parts of the country. Since the issue has been felt to involve the total Association rather than simply members of the one Division, members outside that Division have been included. It is hoped that constructive work may be done on this problem of opportunities for the older professional man which may be of continuing service to psychologists as they reach

retirement age, and perhaps somewhat pioneer in thinking about this general problem for other professional groups. It is planned that brief inquiries will be sent to older members of the Association, asking their suggestions in this matter. In the meantime, this note is being published in the *American Psychologist* with the hope that anyone who has any comments may feel free to write the committee. Though the great expansion of the Association recently has brought predominantly younger membership, these doubtless all hope for a good old age; and the number of psychologists past 60 is not negligible. The Association now has its office for aiding the appointment of young psychologists. Perhaps it might have a file where older psychologists desiring retirement opportunities might register, and where colleges desiring the services of an older teacher for replacement of a regular member on leave, a research project director desiring staff some of which might be older, or a business agency desiring consultative help, might also be on list. Perhaps the committee might (more broadly) ponder retirement policies (as age of retirement, possibility of tapering rather than sudden stopping of work, and so on) though such matters extend beyond the purposes originally conceived. But the committee would be interested in communications bearing on any of these issues which any member of the Association might be moved to send it. Members of the committee are John E. Anderson, John F. Dashiell, Wilma Donahue, Harold E. Jones, Bruce V. Moore, Sidney L. Pressey, Chairman.

The American Board of Examiners in Professional Psychology is pleased to announce the award of its diploma to additional members of the profession.

Awards have been made to the following 15 candidates who have satisfactorily completed both written and oral examinations in addition to all other requirements of training, experience, and endorsements:

John E. Bell	Clinical
Henry Borow	Counseling and Guidance
Kennison T. Bosquet	Clinical
James F. T. Bugental	Clinical
Samuel Grob	Clinical
Philip S. Henderson	Clinical
Jules D. Holzberg	Clinical
James F. Lawrence	Clinical
Kenneth A. Millard	Counseling and Guidance
George A. Muench	Clinical
Harold R. Renaud	Clinical
Leo Shatin	Clinical
Arthur Steinberg	Clinical
Robert B. Van Vorst	Clinical
Claire M. Vernier	Clinical

In addition to the above awards made on the basis of successful completion of written and oral examinations, the American Board of Examiners in Professional Psychology is pleased to announce herewith the award of its diploma to six senior members of the profession in the indicated professional specialties. These six awards were made on the basis of a review of individual qualifications and without written and oral examinations:

Frederick K. Berrien	Counseling and Guidance
Paul L. Hill	Clinical
Rudolf Lassner	Clinical
Leola E. Neal	Clinical
Samuel Pearlman	Clinical
Betty Stehelin *	Counseling and Guidance

* Member of the Canadian Psychological Association.

According to continuing Board policy, all previous awards have been announced in the *American Psychologist*.

To date, the Board has made a total of 1,149 awards of its diploma. These awards are distributed as follows:

Diploma awarded to senior members of the American Psychological Association with waiver of written and oral examinations	1,062
Diploma awarded to members of the American Psychological Association by satisfactory performance on written and oral examinations	69
Diploma awarded to senior members of the Canadian Psychological Association with waiver of written and oral examinations	18
Total	1,149

Psychologists and the Bio Sciences Information Exchange. A central exchange of information regarding current psychological research is now in process of development. Psychologists and their organizations are urged to register their work with the Bio Sciences Information Exchange, Smithsonian Institution, and to use its services. The Exchange is a clearinghouse for current research. Historically, it stems from the Medical Sciences Information Exchange, National Research Council, which during the past year was expanded to include both the psychological and the basic biological sciences. The incorporation of additional fields necessitated the new name, brought about an enlargement of the organization and its transfer from the Division of Medical Sciences, National Research Council, to the Smithsonian Institution.

The psychology section of the Exchange is in its infancy; its growth and usefulness depend largely upon the cooperation of individuals and organizations engaged in psychological research. This cooperation entails only the submission of brief statements of current research problems from which confidential data should be omitted. The statements serve as the medium of exchange, with the understanding that they are not available for publication or publication reference.

The uses of the Exchange are numerous. Investigators may request information on possible sources of support and on current research similar to their own; granting agencies use the Exchange to find additional investigators qualified to perform desired research and to discover inadequately supported areas of research. A more complete statement of the history and functions of the Exchange is carried in *Science,* Vol. 113, No. 2942, pages 584–585, May 18, 1951.

All qualified organizations and individuals are invited to cooperate in the Exchange, and are urged to augment its usefulness to the profession by participating in its development. Inquiries and requests for registration forms should be addressed to Dr. Stella Leche Deignan, Director, Bio Sciences Information Exchange, Room 1113, Dupont Circle Building, 1346 Connecticut Avenue N.W., Washington 6, D. C., Attention: Dr. Betty R. Horenstein, Professional Assistant in charge of Psychological Sciences.

A SPSSI committee for encouragement of psychological studies in Israel is sponsoring the donation of books, journals, and reprints in order to build up a psychological library in a country where books are badly needed. Please send your books (published since 1940) or periodicals via book rate parcel post to: Books for Israel, Psychological Collection, 115 King Street, New York, N. Y.

Books should be packed in heavy paper or corrugated cardboard and tied securely; parcel post accepts packages up to 70 lbs. For additional information write the Co-Chairman Dr. Benjamin Welman, Psychology Department, City College, 17 Lexington Avenue, New York, N. Y., or Dr. S. Stansfeld Sargent, Barnard College, Columbia University, New York 27, N. Y.

The Population Council, Inc., has recently been established as a nonprofit organization in order to encourage research and education on the relationship of the world's population to its material and cultural resources. The Council plans to study problems of the increasing population of the world, to support research, and to make known the results of such research. It will serve as a center for exchange of facts and information on population questions and cooperate with individuals and institutions having similar interests. Trustees of the Council are the Messrs. Frank G. Boudreau, Detlev W. Bronk, Karl T. Compton, Frank W. Notestein, Frederick Osborn, Dr. Thomas Parran, John D. Rockefeller, III, and Lewis L. Strauss.

The Council does not plan to conduct research or educational activities with its own staff. It has already made a small number of research grants to universities and other established organizations, and has established a number of fellowships. The purpose of the fellowship program is to assist in the advanced training in the study of population of students in the social and natural sciences at the predoctoral or postdoctoral levels. For information or application forms relating to this program, inquiries should be addressed to Mr. Frederick Osborn, Executive Vice-President of The Council, 230 Park Avenue, New York 17, N. Y. Applications for fellowships for the academic year 1954–55 should be received before February 1, 1954.

The Austen Riggs Center has announced a postdoctoral fellowship for advanced training in psychological testing, particularly projective techniques, beginning July 1, 1954, although possibly sooner, for one year with a possibility of a second year. The stipend will be based on a USPHS grant. Applicants who have recently received their PhD and have at least one year's internship are preferred. Those interested should write to Dr. David Shapiro, Austen Riggs Center, Stockbridge, Massachusetts.

The James McKeen Cattell Fund invites applications for grants in support of work which will further the useful applications of psychology. Requests for grants are ordinarily acted upon at the annual meeting of the trustees, which is held in February, each year. Applications should be filed before February first. Further information and directions for applying may be obtained by addressing the secretary-treasurer, Dr. Elsie O. Bregman, 425 Riverside Drive, New York 25, N. Y.

The American Society of Group Psychotherapy and Psychodrama announces an award to be

granted in the year 1953–1954 for the best paper dealing with research, theory, or experience in or pertinent to group psychotherapy and psychodrama. The award will be $150 and will be made only if the committee of judges feels that a worthy report has been prepared during the year. The committee of judges will consist of a psychiatrist, a psychologist, and a sociologist, as follows: Jules H. Masserman, Robert W. White, and Ernest W. Burgess. For further information write to Dr. Edgar F. Borgatta, Laboratory of Social Relations, Harvard University, Cambridge 38, Massachusetts.

The **Second Conference on Research in Intergroup Relations,** made possible by a grant from the Field Foundation to the National Association of Intergroup Relations Officials, will be held on the University of Chicago campus December 28–30, 1953, with the university's committee on education, training and research in race relations as hosts. The conference is open, without charge, to practitioners, researchers, and students in the field of intergroup relations. Further information may be obtained by writing to Miss Helen E. Amerman, Research Conference Coordinator, Box 53, Social Science Building, University of Chicago, Chicago 37, Illinois.

The **Northeastern Ohio Mental Hygiene Conference** was held at Kent State University on November 20, 1953. The speaker was Dr. Leo Alexander. The conference was sponsored jointly by the Ohio Department of Public Welfare, Division of Mental Hygiene, and Kent State University, and it was attended by 125 psychologists, psychiatrists, counselors, and guidance workers.

The department of psychology at **Springfield State Hospital,** Sykesville, Maryland, has announced a lecture by Arthur J. Mandy on January 14, 1954 at 2:00 P.M. on the topic "Pregnancy, Parturition, Abortions, and their Psychological Effects on Personality."

The **Western Psychological Association** will hold its thirty-fourth annual meeting at Long Beach, California on May 20–22, 1954, under the joint sponsorship of the University of California at Los Angeles, University of Southern California, Occidental College, and Long Beach State College. A committee headed by J. F. T. Bugental is in charge of local arrangements.

A High-Speed Computer Conference will be held at Louisiana State University on January 28–30, 1954. The purpose will be to discuss uses and applications of high-speed computers in business office procedures, statistical operations, and scientific and technical analyses. The conference is open to businessmen, office managers, accountants, engineers, chemists, physicists, psychologists, statisticians, and other professional workers. Appearing on the program will be speakers of national prominence, and some of the newest electronic devices for high-speed computation will be demonstrated. Inquiries concerning the conference may be directed to Dr. Leon Megginson, Conference Chairman, Louisiana State University, Baton Rouge, Louisiana.

Perhaps the first full-fledged dramatic **television series on mental health** has been presented by WTOP-TV in Washington under the direction of the Bureau of Public Health Education, D. C. Department of Public Health. Among the programs were the following: "Apron Strings"—a mother tries to run her son's life without realizing the complications that develop; "Heartaches"—the story of a man whose emotional disturbance is reflected in pain over the heart; "Comeback"—rehabilitated patients return to their old jobs or, having learned new skills, take on new jobs. The "actors" in the series were rehabilitation patients from St. Elizabeths Hospital. Complete sets of copies of the scripts for use by state or local associations in planning similar programs in their communities may be obtained without charge by writing to Mr. Truman J. Keesey, District of Columbia Public Health Office, Room 5153, District Building, 3rd St. and Indiana Avenue N.W., Washington, D. C.

Psychological Abstracts will be changed to a bimonthly journal, beginning in 1954. The first issue of the 1954 volume will appear in February. Members of the APA will, therefore, not receive the **Abstracts** in January. Each issue will be approximately twice the size of the present monthly issues. Certain other minor changes in format will also be put into effect in order to reduce printing costs. This reduction in cost will make it possible to increase the number of abstracts printed and thus provide more extensive coverage of the literature relevant to psychology.

Convention Calendar

American Psychological Association: September 3–8, 1954; New York City

For information write to:

Dr. Fillmore H. Sanford
1333 Sixteenth Street N. W.
Washington 6, D. C.

American Association for the Advancement of Science: December 26–31, 1953; Boston, Massachusetts

For information write to:

Dr. R. L. Taylor, Associate Administrative Secretary
1515 Massachusetts Avenue N. W.
Washington 5, D. C.

American Society of Human Genetics: December 26–31, 1953; Boston, Massachusetts

For information write to:

Sheldon C. Reed
Dight Institute for Human Genetics
University of Minnesota
Minneapolis 14, Minnesota

American Group Psychotherapy Association: January 15–16, 1954; New York City

For information write to:

George Holland, Executive Secretary
American Group Psychotherapy Association
228 East 19th Street
New York 3, N. Y.

Ontario Psychological Association: January 29–30, 1954; Ottawa

For information write to:

E. T. Alderdice, Secretary-Treasurer
100 St. George Street
Toronto 5, Ontario
Canada

Eastern Psychological Association: April 9–10, 1954; New York City

For information write to:

Dr. G. Gorham Lane
Department of Psychology
University of Delaware
Newark, Delaware

American Personnel and Guidance Association: April 11–15, 1954; Buffalo, New York

For information write to:
Dean Gordon Klopf
State Teachers College
1300 Elmwood Avenue
Buffalo, New York

Midwestern Psychological Association: April 29, 30, May 1, 1954; Columbus, Ohio

For information write to:

Dr. Lee J. Cronbach
Bureau of Research and Service
University of Illinois
1007½ South Wright Street
Champaign, Illinois

Western Psychological Association: May 20–22, 1954; Long Beach, California

For information write to:

Dr. Leona Tyler
Department of Psychology
University of Oregon
Eugene, Oregon

International Congress of Psychology: June 7–12, 1954; Montreal, Canada

For information write to:

Dr. H. S. Langfeld
Eno Hall
Princeton University
Princeton, New Jersey

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AMERICAN PSYCHOLOGICAL ASSOCIATION

1333 Sixteenth Street N.W.
Washington 6, D. C.

The American Psychological Association, founded in 1892 and incorporated in 1925, is the major psychological organization in the United States. With approximately 11,000 members, it includes most of the qualified psychologists in the country The purpose of the APA is to advance psychology as a science, as a profession, and as a means of promoting human welfare. It attempts to further these objectives by holding annual meetings, publishing psychological journals, and working toward improved standards for psychological training and service. It also publishes a monthly Employment Bulletin containing notices of vacancies and situations wanted.

In order to give recognition to the specialized interests of different psychologists, the APA includes seventeen Divisions. Any person, after becoming a member of the APA, may apply for membership in as many Divisions as he wishes. The Divisions are:

Division of General Psychology
Division on the Teaching of Psychology
Division of Experimental Psychology
Division on Evaluation and Measurement
Division on Childhood and Adolescence
Division of Personality and Social Psychology
The Society for the Psychological Study of Social Issues—a Division of the American Psychological Association
Division on Esthetics
Division of Clinical and Abnormal Psychology
Division of Consulting Psychology
Division of Industrial and Business Psychology
Division of Educational Psychology
Division of School Psychologists
Division of Counseling Psychology
Division of Psychologists in Public Service
Division of Military Psychology
Division on Maturity and Old Age

Each division has its own officers. Each meets annually at the time and place of the APA meeting. Each has its own membership requirements, which in some cases are higher or more specialized than the requirements for election to the APA.

The annual meetings of the APA are held in September. An attempt is made to choose meeting sites in such a way that attendance will be convenient for members and their guests in different sections of the country at different times. Thus, the 1954 meeting will be held from September 3 through September 8 in New York City, and the 1955 meeting in San Francisco. These meetings provide the members with an opportunity to present or hear reports of psychological research and lectures on topics of psychological interest, and to participate in formal and informal discussion groups. The research reports, lectures, and discussion groups cover varied topics of current interest within the field of psychology.

The chief governing body of the APA is the Council of Representatives. It includes representatives from each of the Divisions. A Board of Directors, composed of the six officers of the APA (President, Past President, President-elect, Recording Secretary, Executive Secretary, and Treasurer) and six Council members elected by the Council, is the administrative agent of the Council and exercises general supervision over the affairs of the Association.

The APA maintains an office in Washington which acts as a coordinating center for all APA activities. Journal subscriptions, membership applications, personnel placement requests, and general APA business procedures are handled in this office.

EAST

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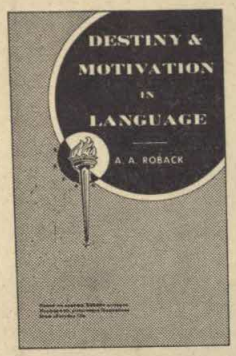
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